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**Creating/Updating Digital Infrastructure and Rescuing Data for the
Maryland Geological Survey's Collection of Aerial Photographs
(2015-2016)**

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Acronyms and Abbreviations Used in This Report	
<i>Acronym/Abbreviation</i>	<i>Description</i>
DPAP	Data Preservation Advisory Panel
EROS	Earth Resources Observation and Science Center
JHU	The Johns Hopkins University
MD DNR	Maryland Department of Natural Resources
MD SHA	Maryland State Highway Administration
MGS	Maryland Geological Survey
MSA	Maryland State Archives
NAPP	National Aerial Photography Program
NGGDPP	National Geological and Geophysical Data Preservation Program
NWIS	National Water Information System
PI	Principal Investigator
QA/QC	Quality Assurance/Quality Control
USDA	United States Department of Agriculture
USGS	United States Geological Survey

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ABSTRACT

The Maryland Geological Survey (MGS or “the Survey”) shares the concerns of other agencies and organizations engaged in geological research – that geoscience collections and data are valuable in their own right, beyond the lifetime of the projects during which they are collected or acquired, and that special efforts are required to preserve them and ensure their accessibility.

In this, its eighth year as a recipient of a U.S. Geological Survey (USGS) National Geological and Geophysical Data Preservation Program (NGGDPP) grant, MGS fulfilled its grant objectives by (1) creating digital infrastructure (i.e., scanning) ~1,580 9”x9” county-based aerial photographs dating from the 1980s and 1990s; (2) updating digital infrastructure by performing a comprehensive quality assurance/quality control (QA/QC) of ~6,100 internal database records for the 1930s – 1950s county-based aerial photographs; (3) rescuing data at risk by purchasing archival-quality drop-front storage boxes and folders for the entire county-based aerial photograph collection (~16,000 9”x9” photographs); and (4) rescuing data at risk by re-housing ~6,100 of the 1930s, 1940s, and 1950s county-based aerial photographs into the above-referenced archival boxes and transferring these photographs to a Maryland State Archives (MSA) facility for permanent storage. MGS exceeded its grant objectives by scanning ~80 more aerial photographs than expected, and transferring ~1,100 more photographs to MSA than originally proposed.

Several outside collaborators generously donated their services to further MGS’s data preservation efforts during the FY15 NGGDPP grant year. MSA generously donated the services of one of its staff members to assist MGS with completing its grant scanning task. MSA staff also provided guidance on appropriate archival boxes/folders for the county-based aerial photograph collection, and facilitated the boxed photographs’ transfer to the MSA facility in Windsor Mill, MD for permanent storage. Additionally, the 1930s, 1950s, 1960s, 1970s, and 1980s county aerial photograph index maps continue to be available to the public online via MSA’s *Guide to Government Records* website. The *Guide to Government Records* website is also hosting MGS’s collection of aerial photographic enlargements of the Rockville-Laurel area of Montgomery County in Maryland. Additionally, the Johns Hopkins University (JHU) *JScholarship* website is currently hosting the 1930s and 1950s county aerial photograph index maps, as well as assorted county-based aerial photographs of Baltimore County and City from the 1930s and 1950s. Links to both websites are provided on the MGS’s Data Preservation webpage:
http://www.mgs.md.gov/publications/mgs_data_preservation.html.

Aerial photographs depict land use and land cover at particular points in time. A time-series of such photographs can reveal detectable, measurable changes and trends in those patterns. Such photography is irreplaceable – once the flight date has passed, ground conditions on that date cannot be replicated or reconstructed. The Survey’s collection of aerial photographs will only grow in usefulness as land use continues to change, and as a broad range of researchers and managers attempts to reconstruct past usage from these snapshots in time.

Aside from the inherent value of aerial photography, MGS initially selected this collection for documentation and digitization because (a) it is one of the Survey’s most frequently used

collections; (b) it was a permanent holding for which metadata was incomplete; (c) documenting the collection was the first of several steps that will eventually lead to the photos being scanned, uploaded to the Internet, and permanently preserved; (d) members of MGS's Data Preservation Advisory Panel (DPAP) unanimously recommended that this collection be the next one documented; and (e) the project supports a statewide effort to create an electronic archive of historical aerial photographs.

To date, preliminary metadata is complete for the entire aerial photograph collection. Approximately 71 percent of this collection has been converted to digital imagery with the help of MGS's data preservation partners, MSA and JHU. An additional ~5,350 photographs of USGS origin (approximately 22 percent of MGS's total aerial photograph collection) have been or will be scanned by the USGS Earth Resources Observation Systems (EROS) Data Center in the following years. If these photographs are counted as scanned, approximately 93 percent of the MGS aerial photograph collection is considered scanned. The remaining seven percent of the collection that remains un-scanned – ~1,750 photographs – are currently being scanned as part of MGS's FY2016 NGGDPP grant activities. Since preliminary metadata creation for this collection is complete, MGS is now intently focusing on (1) creating digital infrastructure for (i.e. scanning) the remainder of the collection; (2) finalizing metadata records via a comprehensive QA/QC process; (3) making the digital scans of this collection accessible to the public; and (4) transferring the paper aerial photographs and index maps to MSA, a state facility better suited for their long-term preservation.

INTRODUCTION

Aerial Photograph Collection: Overview

Maryland Geological Survey (MGS) houses a large collection of historical aerial photographs of the State, most of which were donated by the Maryland State Highway Administration (SHA) or its predecessors. This collection currently consists of approximately 24,300 aerial photographs and photo-mosaic index maps. To date, the Survey has identified ten components, or sub-collections, of its entire aerial photograph collection.

Component 1: County-Based Aerial Photographs

The first component comprises the bulk of the collection and consists of approximately 16,100 county-based, black-and-white, 9"x9" aerial photos (1:20,000-scale). Component 1 photographs were taken during the following time periods: 1937-1938, 1949, 1951-1953, 1957, 1961-1964, 1968, 1970-1972, 1979-1981, and 1983-1990.

These photographs were usually flown or otherwise acquired by the U.S. Department of Agriculture (USDA), the U.S. Geological Survey (USGS), or the private firm Air Photographics. USDA and USGS photographs were donated to MGS, mainly by SHA. MGS purchased the copyrighted Air Photographics photographs.

Component 2: Fenwick and Assateague Island Aerial Photographs

The second component, considered a “special collection,” consists of approximately 500 unrectified, black-and-white, 2’x2’ photographic enlargements flown over one or both of the State’s two Atlantic coast barrier islands, Fenwick and Assateague Islands. These photographs were taken during 13 different time periods between 1952 and 1964.

Component 3: Montgomery County Aerial Photographs

The third component, another special collection, consists of approximately 200 unrectified, black-and-white, 19”x19” photographic enlargements flown over the Rockville-Laurel area of Montgomery County, Maryland. These photographs were taken annually or biannually, on 12 different dates between 1966 and 1974.

Component 4: County Aerial Photograph Index Maps

The fourth component consists of approximately 400 22” x 34” photo-mosaic index maps, dating from 1936-1990. These index maps depict flight lines and frame numbers for both the county-based aerial photographs (Component 1) and the Fenwick and Assateague Islands aerial photographs (Component 2).

Component 5: Quadrangle-Based Aerial Photographs

The fifth component consists of approximately 4,900 aerial photographs (mostly 9”x9”, mainly black-and-white, some color) that were primarily flown or acquired by the USGS and organized on a 7.5-minute quadrangle basis. These photographs date from 1936 – 1991. The scale of these photographs varies but primarily ranges from 1:12,000 to 1:35,400. These photographs were donated to MGS.

This component comprises a set of photographs that were broadly inventoried during the FY2012 NGGDPP grant cycle but unrecognized as a distinct set at that time. These photographs were originally counted as part of Component 1. However, since the photographs were taken on a quadrangle-by-quadrangle basis, instead of a county-by-county basis, MGS decided to break these photographs out as a separate component during the FY2013 NGGDPP grant cycle.

Component 6: High-Altitude Black-and-White Aerial Photographs

The sixth component is a special collection which consists of approximately 200 9”x9” black-and-white high-altitude aerial photographs dating from 1977-1983. These aerial photographs were primarily flown or acquired by the USGS and cover portions of Maryland, Pennsylvania, Virginia, and West Virginia. The scale of these photographs is 1:80,000.

Component 7: High-Altitude Infrared Aerial Photographs

The seventh component, also a special collection, consists of approximately 50 9"x9" high-altitude infrared aerial photos dating from 1970-1974. These aerial photographs cover portions of Maryland and Virginia. The counties in Maryland covered by these photographs include Anne Arundel, Baltimore, Calvert, Carroll, Charles, Frederick, Harford, Howard, Montgomery, and Prince George's Counties. The scale of these photographs is not printed on the photographs; however, MGS calculates the scale to be approximately 1:120,000 for the Series 74-039 photographs; approximately 1:140,000 for the Series 144-RC8-4L/5L photographs; and approximately 1:160,000 for the Series 72-209 photographs. The source agency of these photographs is unknown.

Component 8: Quadrangle-Based Infrared Aerial Photographs

The eighth component is a special collection which consists of approximately 200 9"x9" USGS 7.5-minute quadrangle-based infrared aerial photographs dating from 1988-1989. These photographs were primarily flown or acquired by the USGS National Aerial Photography Program (NAPP). The Maryland counties covered by these photographs include Anne Arundel, Allegany, Calvert, Cecil, Charles, Dorchester, Kent, Prince George's, Queen Anne's, St. Mary's, Somerset, Talbot, and Washington Counties. The scale of these photographs is 1:40,000.

Component 9: Washington, DC and Vicinity Aerial Photographs

The ninth component, also a special collection, consists of approximately 1,700 9"x9" black-and-white aerial photographs from Washington, DC and vicinity dating from 1935-1939 and circa 1950. These photographs cover portions of Washington, DC, Maryland, and Virginia. The scale of these photographs is not printed on the photographs; however, MGS calculates the scale to be approximately 1:20,000. The source agency of these photographs is unknown.

Component 10: USGS Well-Related Aerial Photographs

The tenth component is a special collection which consists of approximately 50 9"x9" black-and-white county-based aerial photographs dating from 1987-1989. The Maryland counties covered by these photographs include Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Frederick, Harford, Howard, Montgomery, and St. Mary's Counties. These photographs were primarily flown or acquired by the USGS. The scale of these photographs is not printed on the photographs; however, MGS calculates the scale to be approximately 1:40,000.

These photographs have notations on them which designate well codes assigned by either MGS or USGS. These well codes correspond to the "Site Name" designation information on the USGS National Water Information System (NWIS) web interface. Users can go to <http://nwis.waterdata.usgs.gov/md/nwis/inventory> and check "Site Name". Click "Submit" and then enter the desired well code into the search box to retrieve additional information about the well (use spaces instead of dashes, e.g. AA-Ad-104 should be entered as AA Ad 104). Well information available via this interface typically includes latitude and longitude, county,

hydrologic unit, well depth, hole depth, land surface altitude, national aquifers, local aquifers, field groundwater-level measurements, and field/lab water-quality sample data.

Collection Value and Justification for Preservation

Aerial photographs depict land use and land cover at particular points in time. A time-series of such photographs can reveal detectable, measurable changes and trends in those patterns. Such photography is irreplaceable – once the flight date has passed, ground conditions on that date cannot be replicated or reconstructed. The aerial photograph collection will only grow in usefulness, as land use continues to change, and as researchers and managers attempt to reconstruct past usage from these snapshots in time. Aerial photographs appeal to a wide audience, and have broad potential usefulness.

Several examples of their past usage are illustrative. One of Maryland's most prominent physical features is the Chesapeake Bay, the largest estuary in the country. The declining health of the bay over the past half century has been a cause of concern and intensive study among a myriad of federal, state, and local government agencies. One indicator of bay health is the acreage of the bay floor covered by submerged aquatic vegetation (SAV), which acts as a nursery for a number of aquatic species and buffer the shore from wave-generated erosion. To develop a baseline against which to measure more recent distributions of SAV, the Maryland Department of Natural Resources (DNR) used the 1951-1953 aerial photos to delineate their historical distribution.

In another Chesapeake Bay-related example, a graduate student at a local university interpreted historical shorelines from aerial photographs flown along the bay shoreline of one of Maryland's coastal counties. The resulting digital shoreline vectors were used to calculate shoreline rates of change (i.e., erosion or, less commonly, accretion rates for individual shore-normal transects). Coastal planners, in turn, use the rates of change to determine shoreline stabilization strategies appropriate for reaches of shoreline subject to different wave energies (and erosion rates). For instance, "living" shorelines – such as the planting of marsh grasses – are generally recommended along shorelines subject to low (<2 feet/year) rates of erosion.

Historic aerial photographs are also useful to archeologists. They provide important information on the historic built landscape – not only buildings, but other, smaller features that are not often mapped, including small roads and fence lines. These features can be extremely useful in reconstructing old plats, as many of these features are vestiges of property boundaries that can go back hundreds of years.

In some cases, very specific information can be gleaned from aerial photographs. For example, a 1950s-era aerial photo showed the precise location of a Native American ossuary (mass burial) that was excavated in the early 1970s. This historic photo enabled archeologists to determine the exact location of the original gravesite – circular areas of disturbed soil from which remains were extracted during the original archeological dig – and to identify the current owner of the property. As part of a repatriation/reburial effort, inquiries were made of the property owner to ascertain whether or not the remains might be reinterred at the original excavation site.

In addition to the intrinsic value of the aerial photograph collection, a number of other

considerations led MGS to select it for documentation. First, with the exception of certain online collections, it is one of the Survey's most frequently used collections. The MGS library, home to the collection, is open to the public during normal business hours with an appointment. Many of the library's patrons request access to the aerial photos.

Second, the collection is in need of rescue. Because of their age and popularity, the photographs are at risk of further damage due to excessive handling. Compounding that problem are the poor conditions under which the photos are stored. Temperature and relative humidity in the MGS Library fluctuate widely with the seasons. Some of the photographs have become moldy or mildewed. Ultimately, MGS intends to scan the photographs, post the digital images to the Internet, remove the photos from active circulation, and transfer the photographs to MSA, who will house the collection in an environment more conducive to its long-term preservation. Documenting and scanning the items in the collection are, thus, the first steps leading to their ultimate preservation.

Third, at its annual meeting in September 2010, MGS's Data Preservation Advisory Panel discussed the collections remaining to be documented in light of the then upcoming NGGDPP request for proposals. The consensus of the Panel was that, of the MGS collections yet to be documented, the aerial photographs were undoubtedly the collection of greatest interest to the broadest range of users. In addition, making such a collection more readily available to a wider audience might encourage greater support of data preservation efforts at the Survey. One of the Panel members, the director of the Delaware Geological Survey, attested to the widespread use of that state's web-accessible aerial photos by "not only...the geologic community, but land use people in state, county, local government, agriculture, emergency management agencies, coastal program staff, real estate industry, engineering and geological consultants, individual home owners, schools, etc."

Fourth, the project supports a wider state effort to create an electronic archive of historical aerial photographs. Over the past several years, a number of Maryland state agencies have periodically discussed inventorying, scanning, and preserving historical aerial photography held by state and local governments. In creating NGGDPP metadata and digital infrastructure for its collection, MGS is contributing to this statewide effort.

In summary, the creation of metadata and digital infrastructure for its historical aerial photograph collection satisfies the criteria outlined in MGS's *Long-Range Data Preservation Plan* (Hennessee, 2009), advances the permanent preservation of a valuable collection, honors the considered opinions of an advisory panel that fosters data preservation at the Survey, and contributes to statewide efforts to create an online resource available to a broad user community.

BACKGROUND

Maryland and MGS Data Preservation Efforts

Geographically, Maryland is a relatively small state, with a land area of 9,844 square miles and a water area of 623 square miles. But, with a population of nearly 5.8 million people, it is the fifth

most densely-populated state in the U.S. (595 people per square mile) (MGS, 2007; U.S. Census Bureau, 2010). The state straddles six geologically diverse physiographic provinces, from the Appalachian Plateaus to the Atlantic Continental Shelf, and contains an extensive network of tidal streams and bays, most notably northern Chesapeake Bay. The Atlantic Ocean forms its eastern border.

The State geological survey has been in existence since 1896. The types of geoscience collections held by MGS reflect its mission, as it has changed over the past 120 years. Current research is focused on the geological and groundwater resources of the State. However, MGS has retained several collections from the past, when the interests of its staff and the needs of Maryland's citizenry differed from those of today. For instance, although the Survey is no longer actively engaged in paleontological research, MGS has a macrofossil collection that numbers in the hundreds of specimens. As a consequence of its longevity and the diversity of its activities, MGS possesses a wide array of holdings in a variety of formats.

Eight years ago, in response to financial incentives offered by the NNGDPP, MGS began to address the long-term preservation of its data and collections in a formalized, systematic way. Typically, MGS researchers work with other government agencies or academic institutions on projects that are tied to funding sources and designed to meet particular objectives. Usually, the principal investigator (PI) of a project is responsible for maintaining the physical and derived or indirect data collected as part of that project. When several PIs from one of the Survey's programs collect similar kinds of data (e.g., well logs, bay bottom sediment cores), the program might establish a repository and perhaps a paper or digital catalog to facilitate access. However, prior to MGS's participation in the NNGDPP program, there were no MGS-wide provisions to preserve data and the Survey's catalog of collections resided mainly in the minds of its staff members.

MGS NNGDPP Grants (FY2008 – FY2014)

In 2008, NNGDPP awarded MGS a one-year grant (FY2008) to identify and broadly describe the geoscience collections and data currently in its possession. In addition, MGS entered information about the nature, size, condition, and accessibility of those collections and data deemed "permanent" into the Collections Inventory of the National Digital Catalog (Hennessee and Shelton, 2009). Since then, MGS has identified 39 permanent collections: 9 physical collections and 30 derived or indirect data collections. A detailed list of those collections and their data preservation status is located in Appendix 1.

In 2009, NNGDPP awarded MGS a second grant (FY2009), which enabled the Survey to master metadata creation through the documentation of three of its sediment core collections. Additionally, MGS developed a *Long-Range Data Preservation Plan* for its non-digital holdings (Hennessee, 2009) and appointed a curator from among its scientific staff. Inspired by the Data Preservation Workshop at Indiana University, MGS established a Data Preservation Advisory Panel (DPAP) composed of outside geologists, archivists, librarians, and archeologists. From its inception, the DPAP has fostered data preservation at MGS, helping to resolve thorny questions, endorsing proposals, and forming partnerships in applying for preservation-related grants.

The third NNGDPP grant (FY2010) allowed MGS to continue metadata creation for several more of its collections and led to a revision in the format of the Survey's final report submitted to the NNGDPP. As part of its third-year effort, MGS documented approximately 20 percent of the Fenwick and Assateague Island aerial photographs (Component 2), a pilot project of sorts for its fourth year effort.

In 2011, its fourth year as a recipient of a NNGDPP grant (FY2011), MGS created metadata for three components of its aerial photograph collection. These components included county-based aerial photographs from two of the earliest "eras" in its holdings, 1936-1938 and 1951-1953 (Component 1); the second and final subset of enlarged (2' x 2') aerial photos flown in the 1950s and 1960s over the State's barrier islands (Component 2); and the entire collection of index maps (Component 4).

During the fifth NNGDPP grant cycle (FY2012), MGS created metadata for ~9,000 county-based aerial photographs flown post-1953 (Component 1) and the entire collection of Montgomery County aerial photographs flown in the 1960s and 1970s (Component 3). MGS also scanned ~4,000 1950s county-based aerial photographs (Component 1).

In 2013, NNGDPP awarded MGS a sixth grant (FY2013). This grant enabled MGS to create metadata for all of Component 5 (~4,900 quadrangle-based aerial photographs flown in the 1930s-1990s) and scan an additional ~2,800 county-based aerial photographs flown in the 1930s and 1950s (Component 1). Additionally, MGS started a preliminary Quality Control/Quality Assurance (QA/QC) check of the records in its internal data preservation databases.

During the seventh NNGDPP grant cycle (FY2014), MGS scanned ~7,200 county-based aerial photographs from the 1960s and 1970s (Component 1); created metadata for ~2,200 previously unidentified photographs (Components 6-10); and continued its preliminary QA/QC check of the records in its internal data preservation databases.

OBJECTIVES

The objectives of the FY2015 NNGDPP project, as outlined in the proposal, were as follows:

- Scan ~1,500 9"x9" county-based aerial photographs dating from the 1980s – 1990s;
- Perform a comprehensive QA/QC of ~5,000 internal database records for the 1930s – 1950s county-based aerial photographs;
- Purchase archival-quality drop-front storage boxes and folders for the entire county-based aerial photograph collection (~16,000 9"x9" photographs);
- Re-house ~5,000 of the 1930s – 1950s county-based aerial photographs into the above-referenced archival boxes and transfer these photographs to an MSA facility for permanent storage;
- Continue working closely with MSA, as well as JHU's Eisenhower Library, to develop plans to make these digital images web-accessible; and
- Submit a final report to the NNGDPP describing the results, findings, and lessons learned

from the FY2015 project.

GENERAL PROCEDURE

Metadata

Although NNGDPP metadata was not created or submitted to *ScienceBase* during the FY2015 grant cycle, MGS includes this section to provide background information regarding the evolution of its internal aerial photograph database, its database records QA/QC process, and NNGDPP metadata creation/submission. Moreover, the review of MGS database records and improvement of the internal database were ongoing tasks included in the FY2015 grant period.

MGS Internal Database

Metadata for the components of the aerial photography collection are derived from information stored in an internal MGS database. This database has been revised and expanded over time with the inventorying and archiving process. The current version of the aerial photograph database is named *AirPhotoDatabase2014_Access2013.mdb* (Microsoft Access 2013). Some significant changes and additions to this database have occurred since MGS began inventorying its aerial photograph collection. As such, a brief history and revision summary are provided here.

At the start of the inventory process, MGS created a Microsoft Access 2003 database, *AirPhotoIndex.mdb*, and began entering information about the aerial photos and photo-mosaic index maps in its collection. This initial database included two primary tables – *tblAirPhoto* and *tblIndexMap* – which contained information about the county-based aerial photographs and index maps, respectively (Components 1 and 4). The index maps correspond to the county-based aerial photographs and the Fenwick and Assateague Island aerial photographs (Components 1 and 2). The “titles” of all photos depicted on the index maps were entered into the air photo table, regardless of whether MGS actually held the photos in its collection. Thus, a subsequent phase of the project entailed entering information about the actual photos that comprise these MGS components.

The MGS aerial photograph collection currently consists of 10 distinct sets of aerial photographs, also known as components (see *Aerial Photograph Collection: Overview* section on pages 2-5). With the exception of Components 1 and 2, these components do not appear to have associated photo-mosaic index maps. In general, new database tables were developed to house information about these distinct components. These tables often include one or more fields that are used to capture parameter(s) that are specific to the component.

The current tables in the database associated with the 10 aerial photograph collection components include:

- *tbl_CountyAirPhotoInv_inclMSA2016* – an updated inventory and metadata source for the county-based flights of aerial photography (Component 1). This table includes corrections made as a result of the ongoing records QA/QC process;
- *tblAerialPhotos_OC_1964_v2* - the original inventory and metadata source for the Fenwick and Assateague Island aerial photography (2’x2’) (Component 2);
- *tbl_AerialPhotos_MontCo_1966-1974* – the original inventory and metadata source for Montgomery County aerial photography enlargements (Component 3);
- *tbl_APIndexMapInv* - the original inventory and metadata source for the aerial photography index maps (Component 4);
- *tbl_QuadAirPhotoInv* – an inventory of the quadrangle-based aerial photography (Component 5);
- *tbl_SpclColl 1- HAPPhot* – an inventory of the high altitude, black-and-white aerial photography (Component 6);
- *tbl_SpclColl 2- HAPInfrPhot* – an inventory of the high-altitude, infrared aerial photography (Component 7);
- *tbl_SpclColl 3- QuadInfrPhot* – an inventory of the quadrangle-based, infrared aerial photography (Component 8);
- *tbl_SpclColl 4- Wshngtn DC-Vcnty* – an inventory of the Washington, DC and vicinity aerial photography (Component 9); and
- *tbl_SpclColl 5- USGSWellPhot* – an inventory of the USGS NWIS well-related aerial photography (Component 10).

Database QA/QC

In 2013-2014, independent of NNGDPP funding, MGS began an initial QA/QC review of the original *AirPhotoIndex.mdb* database records. The majority of this internal QA/QC occurred during the scanning of the aerial photographs, and involved comparing photo scans (digital infrastructure) with associated photo inventory records and updating tables as needed.

Specifically, while each photograph was being scanned, MGS staff systematically navigated to that photograph’s metadata record in the *AirPhotoIndex.mdb* database and performed a QC of all of the information previously entered in the database for the photograph. MGS staff checked for accurate information and correct spelling/format. Examples of fields that were reviewed include: County Name, Date of Photo, Flight Series, Frame, Photo Scale, File Name, and File Location. In addition, queries and sorting were used to check for duplicate records, errors, and omissions. This QA/QC approach was valuable because 1) it was an efficient use of “down time” while the photograph was scanning, and 2) it resulted in more accurate metadata records.

The QA/QC effort outlined above primarily affected the information related to the county-based photography (Component 1) because this component has been the primary focus of scanning to date. This initial source data QA/QC was very valuable in two key ways: (1) the process forced a familiarity with the collection, which was extremely useful to the PI and other MGS NNGDPP staff; and (2) the process revealed some errors with regards to flight series, date, scale and naming conventions which otherwise may not have been noticed.

The initial QA/QC work in 2013-2014 resulted in an updated, more accurate and user-friendly database which MGS re-named *AirPhotoDatabase2014.mdb*. This 2003 database was later converted to Microsoft Access 2013 and renamed *AirPhotoDatabase2014_Access2013.mdb* to identify as such. Some original tables within this database were renamed to better identify content. During the FY2014 NGGDPP grant period (2014-2015), MGS added five new tables which comprise metadata for Components 6-10 of MGS's aerial photograph collection.

During the FY2015 NGGDPP grant period, MGS performed a thorough QA/QC of approximately 6,100 records associated with the 1930s, 1940s, and 1950s county-based aerial photographs. The goal of this work was to 1) finalize a sub-set of internal database records; 2) organize, cross-reference, and re-house the corresponding photographs into appropriate archival folders and boxes; and 3) transfer the photographs to an MSA facility better suited for their long term storage and preservation. As MSA requires complete and correct metadata to accompany transferred items, MGS adhered to the following QA/QC process.

MGS inspected each paper photograph, opened each photograph's corresponding JPG and TIFF scan file, and opened the photograph's corresponding metadata record in the internal database. MGS verified the image's quality and checked the name of the file against the flight/project series, film negative roll, and frame printed on the photograph. Note that MGS's internal database contains many additional metadata attributes (beyond the required *ScienceBase* metadata attributes). MGS verified that all of the following internal database metadata fields were correctly filled out: County Name, Date of Photo, IndexMapID, Index Sheet Number, Flight Series, Frame, Photo Type, Photo Scale, In Stock, Missing, Not In Collection, On Index, On AltCo Index, Scanned, Scan Date, File Name, File Location, DPI, File Formats, URL, Geographic Features, Cultural Location, Cultural Features, Source/Contractor, Use Restrictions, and Notes. Queries and sorting were used to check for duplicate records, errors, and omissions. If any of the scans were currently available online, MGS added the appropriate URLs to the metadata record.

MGS is conducting a similar QA/QC for an additional 5,000 records pertaining to the county-based photograph collection (Component 1) during the FY16 NGGDPP grant year. Due to the large number of photographs in this component (over 16,000), MGS intends to make a final submission of updated metadata to *ScienceBase* once internal records for the entire county-based aerial photograph collection are QA/QCed and finalized. This final submission of updated metadata will replace the existing records in *ScienceBase* for the *Historical Aerial Photographs of Maryland, 1937-1990, County Collection*. In addition to the *ScienceBase*-required metadata fields, this final submission to *ScienceBase* will include the additional metadata attributes listed above. This robust metadata set will more thoroughly describe the items in the county-based component and facilitate search/discovery by more users.

NGGDPP Metadata Creation

In some ways, the information stored in the *AirPhotoDatabase2014_Access2013.mdb* database differs in content or format from the fields that comprise NGGDPP-compliant metadata. Inventory tables in the internal MGS database includes additional information pertaining to photo condition, the physical and cultural features depicted on the photo, the ID of the associated

air photo index map, the location of the photo (i.e., room, file cabinet, cabinet drawer), etc. – fields not necessarily of interest to *ScienceBase* Catalog users. Additionally, NGGDPP metadata require that dates be reported in YYYYMMDD format, instead of the MM/DD/YYYY format employed in the Access database. Several NGGDPP metadata fields (including title, abstract, and coordinates) must be constructed, largely by concatenating fields in the internal MGS inventory tables.

MGS creates metadata for the National Digital Catalog with guidance from the *NGGDPP Metadata Preparation Guide* (01/2013) and the NGGDPP instructions, *Preparing Metadata for the National Digital Catalog* (05/15/2009), which provides a worksheet for mapping existing digital data into the NGGDPP-required metadata fields. For each component of the collection, MGS completes an *NGGDPP Metadata Form* describing the information to be supplied as metadata, including explanations and examples for each metadata field and a list of information sources, as appropriate. The NGGDPP-compliant metadata tables are initially built and compiled within a MGS data preservation Access database.

Metadata Submission to *ScienceBase*

The NGGDPP instructions referenced above, coupled with MGS-specific instructions for metadata upload, included as an appendix in a previous report (Hennessee and Shelton, 2010), make metadata submission fairly straightforward. In general, MGS converts Access metadata tables to .csv-formatted files for upload to the *ScienceBase Catalog*. During the metadata submission process, MGS has particularly appreciated its direct interaction with NGGDPP personnel, especially Tamar Norkin, who helped resolve minor glitches in the process.

NGGDPP-compliant metadata for all ten components of MGS’s aerial photograph collection have been submitted to *ScienceBase*. The names of these *ScienceBase* “collections”, their *ScienceBase* ID, and the online links to these components are listed below:

Component 1

Historical Aerial Photographs of Maryland, 1970-1990, County Collection

ScienceBase ID: 4f4e4a94e4b07f02db658dba

Link to ScienceBase Page:

<https://www.sciencebase.gov/catalog/folder/4f4e4a94e4b07f02db658dba>

Component 2

Historical Aerial Photographs of Fenwick and Assateague Islands, Maryland, 1952-1964

ScienceBase ID: 4f4e4aafe4b07f02db66cf18

Link to ScienceBase Page:

<https://www.sciencebase.gov/catalog/folder/4f4e4aafe4b07f02db66cf18>

Component 3

Historical (1966-1974) Aerial Photographs of the Rockville-Laurel Area, Montgomery County, Maryland

ScienceBase ID: 5069f121e4b046e0dfdbbc73

Link to ScienceBase Page:

<https://www.sciencebase.gov/catalog/folder/5069f121e4b046e0dfdbbc73>

Component 4

Historical Air Photo Index Maps of Maryland, 1936-1990

ScienceBase ID: 4f70c4dee4b08a0b754221e1

Link to ScienceBase Page:

<https://www.sciencebase.gov/catalog/folder/4f70c4dee4b08a0b754221e1>

Component 5

Historical Aerial Photographs of Maryland, 1936-1991, Quad Collection

ScienceBase ID: 53fcdfe8e4b0413fd75eab5b

Link to ScienceBase Page:

<https://www.sciencebase.gov/catalog/folder/53fcdfe8e4b0413fd75eab5b>

Component 6

Historical Aerial Photographs of MD, PA, VA, and WV, 1977-1983, Black-and-White High-Altitude Collection

ScienceBase ID: 55c50826e4b033ef5212bd4b

Link to ScienceBase Page: <https://www.sciencebase.gov/catalog/item/55c50826e4b033ef5212bd4b>

Component 7

Historical Aerial Photographs of Maryland, 1970-1974, High-Altitude Infrared Collection

ScienceBase ID: 55e0756ce4b0f42e3d040f03

Link to ScienceBase Page: <https://www.sciencebase.gov/catalog/item/55e0756ce4b0f42e3d040f03>

Component 8

Historical Aerial Photographs of Maryland, 1988-1989, Quad-Based Infrared Collection

ScienceBase ID: 55df7430e4b0518e354e0b67

Link to ScienceBase Page: <https://www.sciencebase.gov/catalog/item/55df7430e4b0518e354e0b67>

Component 9

Historical Aerial Photographs of Washington, DC, MD, and VA, 1935-1939 and circa 1950 Collection

ScienceBase ID: 55e35a3fe4b05561fa2081f9

Link to ScienceBase Page: <https://www.sciencebase.gov/catalog/item/55e35a3fe4b05561fa2081f9>

Component 10

Historical Aerial Photographs of Maryland, 1987-1989, USGS NWIS Well-Related Collection.

ScienceBase ID: 55e4935fe4b05561fa208470

Link to ScienceBase Page: <https://www.sciencebase.gov/catalog/item/55e4935fe4b05561fa208470>

Verifying Accuracy and Completeness of the Uploaded Metadata

Once the metadata files were uploaded, MGS verified the completeness and accuracy of the uploads. To check completeness, MGS verified that the total number of records in each sub-collection, determined from the appropriate internal database table, matched the number received in the *ScienceBase Catalog*. Then, for a subset of records in each component submitted, MGS checked the accuracy of the upload by verifying that the content received in the *ScienceBase Catalog* matched the information in the corresponding internal database tables.

After verifying the accuracy and completeness of the metadata upload, MGS reviewed and, as needed, revised the associated information contained in the original Collections Inventory. This step is necessary because the exact number of items uploaded may differ from the estimated number reported in the initial description of a collection. Or, metadata are completed for additional items in a collection. Or, as a collection is itemized and documented, the contents of the collection is broadened to include more kinds of items, or narrowed to include fewer, necessitating a change in the collection description.

Digital Infrastructure

Creation

MGS continued to scan its aerial photographs with a Plustek OpticPro A320 Flatbed Scanner in grayscale at a resolution of 1200 dpi in both JPG and TIF formats. Approximately 1,580 county-based photographs from the 1980s and 1990s were scanned during the FY2015 NGGDPP grant period.

Digital File QA/QC

After each photograph was scanned and the resultant JPG and TIF files were created, MGS staff opened each file to verify its quality and QA/QC the name of the file against the flight /project series, film negative roll, and frame printed on the photograph. In addition, the scan date, filename, and file format were documented and the scan check box updated for the corresponding record in the pertinent table within the MGS internal database.

Accessibility

Paper Holdings

Currently, MGS holds the majority of the photographs and index maps that comprise its collection of aerial photography. Library patrons are welcome to access the collection in-house with an appointment during normal MGS Library hours (noon to 4:30pm Monday through Friday).

In August of 2016 (the end of the FY2015 NGGDPP grant cycle), MGS transferred ~6,100 county-based aerial photographs from the 1930s, 1940s, and 1950s (Component 1) to MSA's facility in New Windsor, MD for permanent storage. This process will be repeated during the FY16 NGGDPP grant

cycle. In general, photographs will only be considered for permanent transfer to MSA if the photographs have been scanned and the associated metadata records have undergone a thorough QA/QC check. Paper photographs transferred to MSA will be available to patrons for viewing upon request.

Digital Scans

MSA and JHU have posted many of MGS's aerial photographs and aerial photograph index maps to their websites, *Guide to Government Records* and *JScholarship*, respectively. Please see the "RESULTS / Aerial Photograph Collection: Current Status" section on pages 20-24 for a detailed list of the aerial photographs and index maps currently available online.

Additionally, visitors to the MGS Library can view the digital images of the aerial photographs and aerial photograph index maps in-house on an MGS computer. MGS can also deliver digital images to requestors via the cloud-based file transfer service known as Google Drive.

File Backup Protocol

Starting in 2013, the PI, in consultation with MGS NGGDPP staff, instituted a new protocol for backing up both the data preservation databases and the digital scans of the aerial photographs. The data preservation databases are currently stored on MGS's network in a dedicated folder. On a daily basis, copies of the data preservation databases are posted to a dedicated portable hard drive and also to the local drive of a staffer's computer. As such, there are always three current copies of the databases in three separate locations.

As aerial photographs are scanned, the digital files are saved to a dedicated portable hard drive. Weekly back-ups are made to a second, dedicated portable hard drive. On a monthly basis, these digital files are copied to one of MGS's network servers, which backs itself up on a nightly basis. As such, every week the most up-to-date collection of digital scans is backed up on two separate portable hard drives; and scans are backed up monthly to MGS's network server.

RESULTS

FY2015 Grant Objectives

MGS fulfilled its FY2015 NGGDPP grant objectives, and in some ways, exceeded them. MGS scanned approximately 1,580 county-based, black-and-white, county-based aerial photographs from the 1980s and 1990s (Component 1). This total number of photographs scanned slightly exceeded MGS's proposal estimate of 1,500 due to some photographs being listed originally (though erroneously) in the internal database as "Not in Stock". This scanning effort completes the creation of digital infrastructure for the largest component of MGS's aerial photograph collection, the county-based aerial photographs (Component 1).

Thanks to the ongoing partnership between MGS and MSA, MSA provided the services of an Archivist I/Scanner Operator staff member to assist MGS with completing its grant scanning task. Mr. Saul Gibusiwa of MSA worked approximately one day a week at MGS over the course

of the grant term. MGS is extremely grateful to MSA for supporting its grant-related preservation efforts, and MGS is thankful that both MSA and the NNGDPP program allowed MGS to count Mr. Gibusiwa's effort as part of its Match contribution.

During the FY2015 NNGDPP grant period, MGS also performed a thorough QA/QC of approximately 6,100 records associated with the 1930s, 1940s, and 1950s county-based aerial photographs. The goal of this work was to finalize a sub-set of internal database records corresponding to those photographs that would ultimately be transferred to MSA for permanent storage at the end of the grant period. As MSA requires complete and correct metadata to accompany transferred items, MGS adhered to the following QA/QC process.

As a primary QA/QC cycle, MGS inspected each paper photograph, opened each photograph's corresponding JPG and TIFF scan file, and opened the photograph's corresponding metadata record in the internal database. MGS verified the image's quality and checked the name of the file against the flight/project series, film negative roll, and frame printed on the photograph. Note that MGS's internal database contains many additional metadata attributes (beyond the required *ScienceBase* metadata attributes). MGS verified that all of the following internal database metadata fields were correctly filled out: County Name, Date of Photo, IndexMapID, Index Sheet Number, Flight Series, Frame, Photo Type, Photo Scale, In Stock, Missing, Not In Collection, On Index, On AltCo Index, Scanned, Scan Date, File Name, File Location, DPI, File Formats, URL, Geographic Features, Cultural Location, Cultural Features, Source/Contractor, Use Restrictions, and Notes. Queries and sorting were used to check for duplicate records, errors, and omissions. If any of the scans were currently available online, MGS added the appropriate URLs to the metadata record. A secondary QA/QC cycle was performed during the photographs' boxing effort.

In April of 2016, MGS NNGDPP grant staff met with MSA staff members to discuss the county-based aerial photograph component of MGS's aerial photograph collection, the overall condition of the photographs, appropriate archival folders and boxes, and the photographs' transfer process from MGS to MSA. Subsequently, MGS followed up with MSA to get additional guidance on archival supplies and data transfer. Some specific concerns focused on appropriate cross-referencing and labeling of boxes and folders with the MGS database and MSA transmittal forms.

In May of 2016, MGS purchased 20 boxes of 100-ct (2,000 total) Perma/Dur reinforced file folders from University Products (UP). These folders are sturdy, lignin-free, and acid-free with a strictly controlled pH level (8.5 +/-) buffered with 3% calcium carbonate for an alkaline reserve to provide a protected environment for the photographs. MGS also purchased 200 11" x 14" x 3" Perma/Cor corrugated drop front boxes (E-flute style) from UP. These boxes are made from 100% virgin, high alpha-cellulose pulp and are also acid- and lignin-free. The drop-front storage boxes are ideal for photograph storage as they provide easy access and retrieval of the stored photographs. These boxes also feature an adhesive-free, metal edge construction for protection and stacking strength – ideal, since these boxes will be stacked on shelves within MSA's archive facility. Please see Figures 1 and 2 for pictures of the folders and boxes from the UP website.

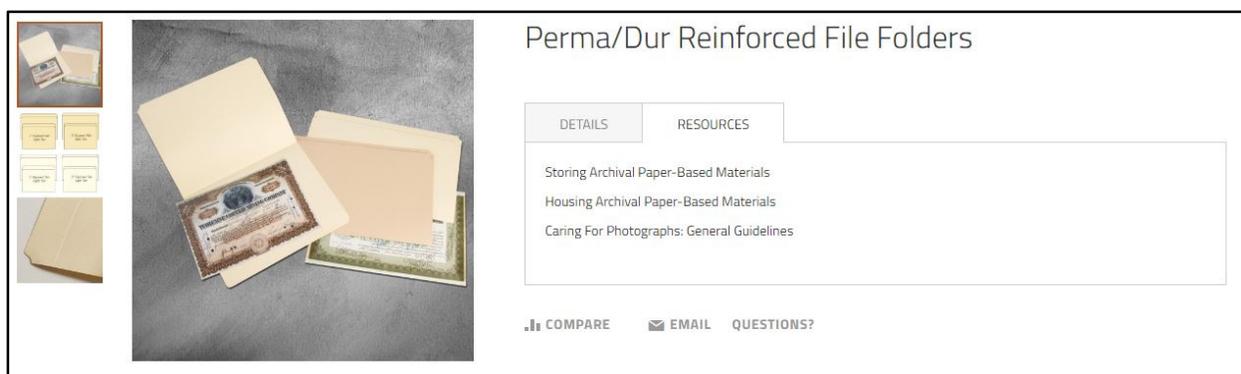


Figure 1. Image of Perma/Dur Reinforced File Folders from the University Products website.



Figure 2. Image of Perma/Cor Corrugated Drop Front Boxes, E-Flute, from University Products website.

In July of 2016, MGS NCGDPP grant staff worked for approximately three weeks to sort the 1930s, 1940s, and 1950s county-based aerial photographs into piles based on county, full date of photograph (MM/DD/YYYY), flight series, and frame number; label the folders and boxes appropriately; conduct the secondary QA/QC of the database records pertaining to these photographs; and prepare the MSA records transmittal forms. MGS NCGDPP grant staff members Heather Quinn, Dale Shelton, and Katie Knippler worked jointly on these efforts.

Staff found that the following division of labor worked very efficiently. Mr. Shelton handled the initial sorting/grouping of photographs into folders and corresponding folder labeling (in pencil per MSA). Ms. Knippler verified folder content and labels; entered information onto MSA's required collection transfer forms; and relayed information to Ms. Quinn for verification/entry into the internal database. For each photograph the information recorded in the database included box and folder number as well as any photo-specific information such as presence of a stamped scale, notations on the back of the photos, and photo condition issues. During this process, digital scans of each photograph were verified (MGS did indeed discover several photographs that had not been scanned during previous years and these were promptly scanned). The boxes were affixed with temporary labels, which were ultimately replaced with final sticker tables on the top and two sides of each box.

MGS found that performing the secondary QA/QC of the database records during the boxing effort was most efficient – MGS inspected each individual photograph, and was able to relay

pertinent information to a staff member who had the database open and could make immediate changes. Approximately 6,100 aerial photographs (all of the 1930s, 1940s, and a portion of the 1950s county-based photographs) were boxed up during the FY2015 NGGDPP grant cycle. This quantity is approximately 1,100 more photographs than proposed. Since MSA agreed to receive 70 boxes of photos during this grant cycle, MGS wanted to prepare the full complement of 70 boxes. Please see Figures 3-7 for photographs of the aerial photograph boxing effort.



Figure 3. View of the MGS NGGDPP boxing effort. Note aerial photograph index maps in foreground, archival boxes to the right, and Mr. Shelton and Ms. Quinn in the background.



Figure 4. View of workstation used for secondary database QA/QC.

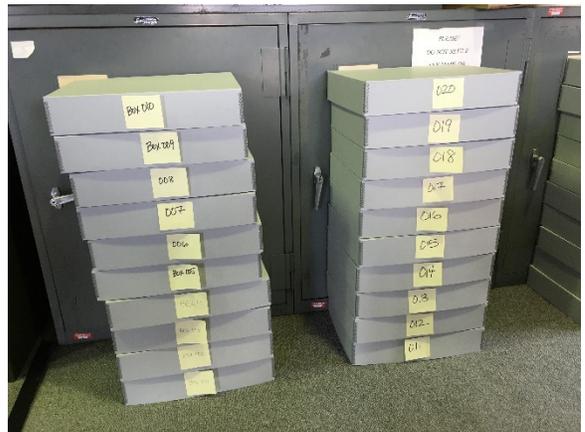


Figure 5. View of a subset of archival drop-front boxes with temporary Post-It labels. Final labels were affixed at the end of the boxing effort.

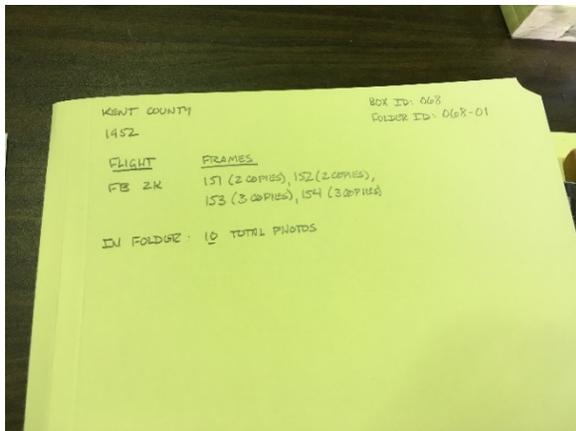


Figure 6. Example of folder label in pencil.

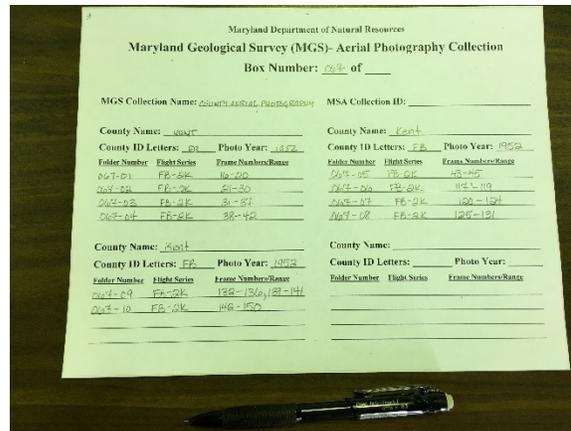


Figure 7. Example of label placed on the top of the archival boxes. These labels were later re-written in fine point Sharpie.

In early August of 2016, MSA bid out the transportation of the photograph boxes from MGS to MSA. The winning bid was awarded to Office Relocation Group, Inc. (ORG) of Baltimore, Maryland. On August 25, 2016, ORG picked up 70 boxes of photographs from MGS and transported them to the MSA facility in Windsor Mill. MSA assigned the transferred aerial photographs the MSA Series identifier of T5053.

MGS provided MSA with the necessary transfer documentation – specifically, the Pre-Transfer Record Condition Assessment Form and the Preliminary Inventory Worksheet (please see Appendices 2 and 3 for these forms, respectively). MGS also provided MSA with an Access 2013 database containing two tables: 1) *MGS2MSA_CoPhotos2016_FINAL* – containing detailed information about each photograph that was transferred; and 2) *MGS2MSA_Photosperfolder_FINAL* – containing a list of the individual folders, and the total number of photographs per folder.

MGS is extremely grateful to MSA for its guidance, support, and for agreeing to permanently store its collection of county-based aerial photographs. The next transfer of ~5,000 aerial photographs will occur during the FY16 NGGDPP grant cycle.

MGS is continuing to work closely with MSA and JHU to explore ways of making the digital scans of the aerial photographs available to the public. Currently, MSA hosts the 1930s, 1950s, 1960s, 1970s, and 1980s county aerial photograph index maps online via its *Guide to Government Records* website. The *Guide to Government Records* website is also hosting MGS’s collection of aerial photographic enlargements of the Rockville-Laurel area of Montgomery County in Maryland. Additionally, the Johns Hopkins University (JHU) *JScholarship* website is currently hosting the 1930s and 1950s county aerial photograph index maps, as well as assorted county-based aerial photographs of Baltimore County and City from the 1930s and 1950s. MGS is very thankful to these data preservation partners for providing online access to many of their digital scans. The Survey struggles with network storage issues and the lack of a digital framework suitable for hosting such large numbers of digital photographs. MGS continues to explore the possibility of using the State of Maryland’s *iMap* portal to host some of these photographs in the future. Currently, customers

can request digital scans from MGS who, in turn, can share these images via the cloud-based Google Drive platform.

Aerial Photograph Collection: Current Status

Below is a summary of the ten components of the aerial photograph collection, including each component's metadata, digital infrastructure, and online availability status.

Component 1. County-Based Aerial Photographs

The first component, the bulk of the collection, consists of approximately 16,100 county-based black-and-white 9"x9" aerial photos (1:20,000-scale) from several time periods – 1937-1938, 1949, 1951-1953, 1957, 1961-1964, 168, 1970-1972, 1979-1981, and 1983-1990.

These photographs were usually flown or otherwise acquired by the USDA, USGS, or Air Photographics. USDA and USGS photographs were donated to MGS, mainly by SHA. MGS purchased the copyrighted Air Photographics photos.

As of August 2016, all photographs in this component have been digitized (1200 dpi; all in TIF format; most also in JPG format).

Select photographs of Baltimore County and Baltimore City from 1937-1938 and 1952-1953 are available online via JHU's *JScholarship* website here: <https://jscholarship.library.jhu.edu/handle/1774.2/32749> .

Metadata for this component (updated during the FY2013 NGGDPP grant cycle) is available via the *Historical Aerial Photographs of Maryland, 1937-1990, County Collection* on USGS' *ScienceBase Catalog* website here: <https://www.sciencebase.gov/catalog/item/4f4e4a94e4b07f02db658dba> . The *ScienceBase* ID for this component is 4f4e4a94e4b07f02db658dba.

In August 2016, approximately 6,100 aerial photographs (comprising the 1930s, 1940s, and a portion of the 1950s) were transferred to the MSA facility in Windsor Mill, MD for permanent storage. The MSA Series ID is T5053.

Component 2: Fenwick and Assateague Island Aerial Photographs

The second component, considered a "special collection," consists of approximately 500 unrectified, black-and-white, 2'x2' photographic enlargements, flown over one or both of the State's two Atlantic coast barrier islands, Fenwick and Assateague Islands, during 13 different time periods between 1952 and 1964.

These aerial photographs were scanned by JHU and are available on JHU's *JScholarship* website here: <https://jscholarship.library.jhu.edu/handle/1774.2/36062> .

The metadata for this component is available via the *Historical Aerial Photographs of Fenwick*

and Assateague Islands, Maryland, 1952-1964 collection on USGS' *ScienceBase Catalog* website here: <https://www.sciencebase.gov/catalog/item/4f4e4aafe4b07f02db66cf18> . The *ScienceBase* ID for this component is 4f4e4aafe4b07f02db66cf18.

Component 3: Montgomery County Aerial Photographs

The third component, another special collection, consists of approximately 200 unrectified, black-and-white, 19"x19" photographic enlargements, flown over the Rockville-Laurel area of Montgomery County, Maryland, annually or biannually, on 12 different dates between 1966 and 1974.

These photographs were scanned for MGS by MSA staff during the summer of 2015 and are available on MSA's *Guide to Government Records* website here: <http://guide.mdsa.net/pages/series.aspx?id=SE145> .

The metadata for this component is available via the *Historical (1966-1974) Aerial Photographs of the Rockville-Laurel Area, Montgomery County, Maryland* collection on USGS' *ScienceBase Catalog* here: <https://www.sciencebase.gov/catalog/item/5069f121e4b046e0dfdbbc73> . The *ScienceBase* ID for this component is 5069f121e4b046e0dfdbbc73.

Component 4: County Aerial Photograph Index Maps

The fourth component consists of approximately 400 22" x 34" photo-mosaic index maps, dating from 1936-1990, depicting flight lines and frame numbers for both the aerial photos flown for a particular county or section of a county, as well as the 2'x2' photographic enlargements for the barrier islands. These index maps are the reference companion maps to the first component, the county-based aerial photographs.

All of the index maps have been scanned. The 1930s, 1950s, 1960s, 1970s, and 1980s index maps are available on MSA's *Guide to Government Records* website here: <http://guide.mdsa.net/pages/index.aspx> (click on "View by Agency", enter "Maryland Geological Survey" under "Agency", and scroll down to the county listings). The 1930s and 1950s index maps are available on JHU's *JScholarship* website here: https://jscholarship.library.jhu.edu/handle/1774.2/36422/browse?rpp=20andetal=-landtype=titleandsort_by=1andorder=ASCandoffset=0 . Digital copies of the 1990s index maps are not currently posted online; however, MGS visitors can view the digital images in-house or request copies of the digital images.

The metadata for this component is available via the *Historical Air Photo Index Maps of Maryland, 1936-1990* collection on USGS' *ScienceBase Catalog* here: <https://www.sciencebase.gov/catalog/item/4f70c4dee4b08a0b754221e1> . The *ScienceBase* ID for this component is 4f70c4dee4b08a0b754221e1.

Component 5: Quadrangle-Based Aerial Photographs

The fifth component consists of approximately 4,900 aerial photos (mostly 9"x9", mainly black-

and-white, some color) that were primarily flown or acquired by the USGS and organized on a 7.5-minute quadrangle basis. These photographs date from 1936 – 1991. The scale of the photography varies but primarily ranges from approximately 1:12,000 to 1:35,400. These photographs were donated to MGS.

This component comprises a previously unidentified set of photos that were inventoried during the FY2012 NGGDPP grant cycle. Originally these photographs were included in with Component 1, the county-based series. However, once it was recognized that these photos were flown on a quadrangle-by-quadrangle basis, instead of a county-by-county basis, MGS decided to designate these photographs as a distinct component.

MGS does not plan to scan the Component 5 aerial photographs because the USGS EROS Center is in the process of scanning the majority of photographs flown or otherwise acquired by the USGS. In fact, as of February 2015, approximately 65 percent of the photographs in Component 5 have already been scanned by the EROS group. MGS anticipates that the remainder of the Component 5 photographs will be made available in digital form by EROS in the next several years.

The metadata for this component was completed during the FY2013 NGGDPP grant cycle and is available via the *Historical Aerial Photographs of Maryland, 1936-1991, Quad Collection* on USGS' *ScienceBase Catalog* website here:

<https://www.sciencebase.gov/catalog/item/53fcdfe8e4b0413fd75eab5b> . The *ScienceBase* ID for this component is 53fcdfe8e4b0413fd75eab5b.

Component 6: High-Altitude Black-and-White Aerial Photographs

The sixth component is a special collection which consists of approximately 200 9"x9" black-and-white high-altitude aerial photographs dating from 1977-1983. These aerial photographs were primarily flown or acquired by the USGS and cover portions of Maryland, Pennsylvania, Virginia, and West Virginia. The scale of these photographs is 1:80,000.

MGS does not plan to scan the photographs in this component since the photos originated with the USGS. According to the NGGDPP, the USGS EROS group is scanning the majority of USGS aerial photographs over the next several years. As such, it is likely that digital images of these photographs will soon be available via EROS. MGS will continue to monitor the USGS EROS *EarthExplorer* online service for these images.

The metadata for this component was completed during the FY2014 NGGDPP grant cycle and is available via the *Historical Aerial Photographs of MD, PA, VA, and WV, 1977-1983, Black-and-White High-Altitude Collection* on USGS' *ScienceBase Catalog* website here:

<https://www.sciencebase.gov/catalog/item/55c50826e4b033ef5212bd4b> . The *ScienceBase* ID for this component is 55c50826e4b033ef5212bd4b.

Component 7: High-Altitude Infrared Aerial Photographs

The seventh component, also a special collection, consists of approximately 50 9”x9” high-altitude infrared aerial photos dating from 1970-1974. These aerial photographs cover portions of Maryland and Virginia. The counties in Maryland covered by these photographs include Anne Arundel, Baltimore, Calvert, Carroll, Charles, Frederick, Harford, Howard, Montgomery, and Prince George’s Counties. The scale of these photographs is not printed on the photographs; however, MGS calculates the scale to be approximately 1:120,000 for the Series 74-039 photographs; approximately 1:140,000 for the Series 144-RC8-4L/5L photographs; and approximately 1:160,000 for the Series 72-209 photographs. The source agency of these photographs is unknown.

These photographs are being scanned as part of MGS’s FY2016 NGGDPP grant tasks.

The metadata for this component was completed during the FY2014 NGGDPP grant cycle and is available via the *Historical Aerial Photographs of Maryland, 1970-1974, High-Altitude Infrared Collection* on USGS’ *ScienceBase Catalog* website here: <https://www.sciencebase.gov/catalog/item/55e0756ce4b0f42e3d040f03> . The *ScienceBase* ID for this component is 55e0756ce4b0f42e3d040f03.

Component 8: Quadrangle-Based Infrared Aerial Photographs

The eighth component is a special collection which consists of approximately 200 9”x9” USGS 7.5-minute quadrangle-based infrared aerial photographs dating from 1988-1989. These photographs were primarily flown or acquired by the USGS NAPP. The Maryland counties covered by these photographs include Anne Arundel, Allegany, Calvert, Cecil, Charles, Dorchester, Kent, Prince George’s, Queen Anne’s, St. Mary’s, Somerset, Talbot, and Washington Counties. The scale of these photographs is 1:40,000.

MGS does not plan to scan the photographs in this component since the photos originated with the USGS. The USGS EROS group is scanning the majority of USGS aerial photographs over the next several years. As such, it is likely that digital images of these photographs will soon be available via EROS. MGS will continue to monitor the USGS EROS *EarthExplorer* online service for these images.

The metadata for this component was completed during the FY2014 NGGDPP grant cycle and is available via the *Historical Aerial Photographs of Maryland, 1988-1989, Quad-Based Infrared Collection* on USGS’ *ScienceBase Catalog* website here: <https://www.sciencebase.gov/catalog/item/55df7430e4b0518e354e0b67> . The *ScienceBase* ID for this component is 55df7430e4b0518e354e0b67.

Component 9: Washington, DC and Vicinity Aerial Photographs

The ninth component, also a special collection, consists of approximately 1,700 9”x9” black-and-white aerial photographs from Washington, DC and vicinity dating from 1935-1939 and circa 1950. These photographs cover portions of Washington, DC, Maryland, and Virginia. The

scale of these photographs is not printed on the photographs; however, MGS calculates the scale to be approximately 1:20,000. The source agency of these photographs is unknown.

These photographs are being scanned as part of MGS's FY2016 NGGDPP grant tasks.

The metadata for this component was completed during the FY2014 NGGDPP grant cycle and is available via the *Historical Aerial Photographs of Washington, DC, MD, and VA, 1935-1939 and circa 1950* on USGS' *ScienceBase Catalog* website here: <https://www.sciencebase.gov/catalog/item/55e35a3fe4b05561fa2081f9> . The *ScienceBase* ID for this component is 55e35a3fe4b05561fa2081f9.

Component 10: USGS Well-Related Aerial Photographs

The tenth component is a special collection which consists of approximately 50 9"x9" black-and-white county-based aerial photographs dating from 1987-1989. The Maryland counties covered by these photographs include Anne Arundel, Baltimore, Calvert, Carroll, Cecil, Charles, Frederick, Harford, Howard, Montgomery, and St. Mary's Counties. These photographs were primarily flown or acquired by the USGS. The scale of these photographs is not printed on the photographs; however, MGS calculates the scale to be approximately 1:40,000.

These photographs have notations on them which designate well codes assigned by either MGS or USGS. These well codes correspond to the "Site Name" designation information on the USGS NWIS web interface. Users can go to <http://nwis.waterdata.usgs.gov/md/nwis/inventory> and check "Site Name". Click "Submit" and then enter the desired well code into the search box to retrieve additional information about the well (use spaces instead of dashes, e.g. AA-Ad-104 should be entered as AA Ad 10). Well information available via this interface typically includes latitude and longitude, county, hydrologic unit, well depth, hole depth, land surface altitude, national aquifers, local aquifers, field groundwater-level measurements, and field/lab water-quality sample data.

MGS does not plan to scan the photographs in this component since the photos originated with the USGS. According to the NGGDPP, the USGS EROS Center is scanning the majority of USGS aerial photographs over the next several years. As such, it is likely that digital images of these photographs will soon be available via EROS. MGS will continue to monitor the USGS EROS *EarthExplorer* online service for these images.

The metadata for this component was completed during the FY2014 NGGDPP grant cycle and is available via the *Historical Aerial Photographs of Maryland, 1987-1989, USGS NWIS Well-Related Collection* on USGS' *ScienceBase Catalog* website here: <https://www.sciencebase.gov/catalog/item/55e4935fe4b05561fa208470> . The *ScienceBase* ID for this component is 55e4935fe4b05561fa208470.

NON-GRANT-RELATED ACTIVITIES

Although the activities described in this section were not directly funded by the NGGDPP, MGS

is including this section for two reasons. First, undertaking the activities was inspired by the Survey's involvement with the NGGDPP. Second, compiling all of the Survey's data preservation activities in one place allows the report to serve double duty – not only as a final report to the NGGDPP, but also as an annual report to MGS's data preservation stakeholders (e.g., MGS staff and members of the MGS Data Preservation Advisory Panel).

MGS-MSA-JHU Cooperative

The following activities were conducted during September 2015 – August 2016 as a continuation of the cooperative agreement forged between MGS, MSA, and JHU in July of 2011. Tim Baker and James Watson of MSA and Jim Gillispie of JHU have graciously provided their services and guidance, and steadfastly supported MGS's data preservation efforts over the years. Cooperative efforts included:

- Tim Baker of MSA agreed to help MGS meet its FY2015 NGGDPP grant Match objective by offering the services of an MSA Archivist I/Scanner Operator to assist MGS with its FY2015 scanning tasks. Mr. Saul Gibusiwa of MSA scanned approximately 1,580 county-based aerial photographs dating from the 1980s and 1990s for MGS.
- In September 2016, Jim Gillispie of JHU facilitated an interlibrary loan between the USGS and JHU to acquire (on MGS's behalf) numerous field notes, maps, and cross-section diagrams by Geologist A.A. Drake. These items detail the geology in the Gaithersburg, Germantown, and Rockville quadrangles in Maryland, and will be extremely helpful to MGS Geologist Rebecca Kavage-Adams as she maps out in these areas. The materials are on loan to MGS (via JHU) for approximately three months. With USGS permission, MGS scanned all of the loaned material with either MGS's Plustek OpticPro A320 Flatbed Scanner or the large format Canon Océ Colorwave 300 on lease by MD DNR's Engineering and Construction Department.
- JHU provided MGS with a list of maps needed to complete its collection of Maryland USGS topographic maps. MGS is currently compiling what needed maps it has in-house, and will provide paper copies to JHU for scanning. If MGS has more than one copy, MGS will give one copy to JHU for its permanent collection.

MGS Internal Activities

In addition to tasks completed as part of the MGS-MSA-JHU Cooperative, MGS also conducted several data preservation-related tasks in-house. Specifically, MGS staff is working diligently to organize and sort through legacy materials left behind by former staff members as they retire or move on to other employment. A summary of recent activities (within the last two years) is included below.

Since the summer of 2014, MGS NGGDPP staff has designated specific areas for "Recycle", "Shred", "Possible Archive", and "Definite Archive" materials. Items placed in the Possible Archive and Definite Archive areas are assessed by MGS NGGDPP staff and, as time allows, properly inventoried and archived. This is an ongoing and slow process, as MGS staff work on this task during their infrequent breaks between funded projects.

In August 2015, MGS contracted a company to shred obsolete sensitive documents. Approximately 2,125 pounds of material were shredded on-site and recycled by Vangel, Inc. of Baltimore, Maryland. Additionally, approximately 1,500 pounds of paper from MGS have been recycled via Baltimore City's curbside single stream recycling program since August 2015. In September 2015, MGS NNGDPP staff sorted through all of the material designated as "Possible Archive" with the assistance of numerous MGS staff, including several retired MGS geologists with immense knowledge of MGS's historical projects. MGS hopes to repeat this process several more times in future years, as more legacy documents and materials are identified as "Possible Archive" items.

During the summer of 2016, MGS also prepared 1) an inventory of the Survey's paper and digital records; and 2) a records retention schedule for each identified series. This work was requested by MD DNR's Resource Assessment Service (RAS), which is the group under which MGS resides within MD DNR. MD DNR's most recent inventory and records retention schedule dates back to the early 1990s – so an update is desperately needed. MGS submitted its forms to RAS in September of 2016. MGS's forms were compiled with the forms from other RAS groups and submitted to the MD DNR Records Retention Working Group in October of 2016. Ultimately, the forms will be reviewed by MSA and either approved or returned for further edits/clarification.

MGS also continued its compilation of a still-incomplete digital finding aid – essentially metadata – for its many publications, both reports and maps. The finding aid is being utilized in the Survey's website redesign, to facilitate searching and serving digital versions of MGS publications. The MGS curator is working closely with the website design team to ensure data preservation database and website compatibility. This compatibility will facilitate the delivery of the Survey's digital publications and information about other MGS collections to the public.

Data Preservation Advisory Panel

At its annual meeting in early January of 2016, the Survey's Data Preservation Advisory Panel (DPAP) encouraged MGS to apply for FY2016 NNGDPP funding to accomplish two objectives – (1) continue preserving its vast collection of historical aerial photographs, and (2) start transitioning its preservation focus from the aerial photograph collection to another collection in need of preservation – the rock core collection.

MGS proposed a first project to continue preserving its collection of historical aerial photographs by focusing on creating/updating digital infrastructure and rescuing photographs that are at risk of loss and deterioration. In this project, MGS proposed to (1) scan the remaining ~1,750 assorted aerial photographs dating from the 1930s, 1950s, and 1970s that have not yet been scanned by MGS, its data preservation partners, or the U.S. Geological Survey (USGS); (2) continue its comprehensive QA/QC effort (begun during the FY15 NNGDPP grant cycle) and finalize an additional ~5,000 internal database records for MGS's collection of county-based aerial photographs dating from the 1950s and 1960s; (3) update *ScienceBase* with these newly QC'ed metadata records; (4) re-house ~5,000 county-based aerial photographs from the 1950s and 1960s into appropriate archival boxes; and (5) transfer these ~5,000 photographs to an MSA facility for permanent storage.

MGS also proposed a second project to create an internal database and detailed metadata records for its rock core collection. In this project, MGS proposed to (1) perform a detailed inventory of the cores comprising the rock core collection; (2) design and create an internal MGS rock core database consisting of data fields useful to collection users and required for inclusion to *ScienceBase*; (3) populate the internal database with detailed metadata records for the rock cores; (4) submit these detailed metadata records to *ScienceBase*; and (5) assess the overall preservation needs of the rock core collection and create a draft re-organization, labeling, and long-term storage plan for the collection.

The DPAP wrote a letter of endorsement, which MGS included with its grant application materials. MGS submitted its proposal to the NGGDPP via www.grants.gov on February 7, 2016.

FY2016 NGGDPP GRANT STATUS

In a letter dated May 1, 2016, the USGS NGGDPP alerted MGS that full funding had been awarded for the FY2016 grant cycle. On September 9, 2016, MGS hosted a FY2016 NGGDPP grant kick-off meeting. Attendees included Katherine Knippler (PI), Dale Shelton, Heather Quinn, Johanna Gemperline, and Andrew Staley of MGS; and Saul Gibusiwa of MSA. Topics discussed at the meeting included a brief overview of historical MGS NGGDPP grant activities, the FY2016 grant tasks, personnel roles, and billing protocol. Grant activities will be completed during the September 2016 – August 2017 timeframe.

On October 20, 2016, a Rock Core Collection meeting was held for the MGS NGGDPP staff who will be working on the rock core inventory and preservation tasks. Topics discussed included an overview of the rock core collection, preliminary thoughts on database design and table fields, and prep work necessary in order to begin relocating the cores for inventory. A follow-up meeting to further discuss database design is scheduled for December 8, 2016. MGS will also be reaching out to Delaware Geological Survey (DGS) and members of the Midwest Carbon Sequestration Partnership (MWCSP) for guidance on database development, software, and format.

MGS plans to host quarterly project meetings with grant personnel to discuss project progress thus far. Work on the grant tasks is proceeding smoothly and on schedule.

CONCLUSIONS

During the past year, MGS has initiated and/or successfully completed a number of activities in building what it hopes will become a first-rate repository of collections useful to the larger geoscience community. MGS fulfilled its FY2015 NGGDPP grant objectives by (1) creating digital infrastructure (i.e., scanning) ~1,580 9”x9” county-based aerial photographs dating from the 1980s and 1990s; (2) updating digital infrastructure by performing a comprehensive QA/QC of ~6,100 internal database records for the 1930s – 1950s county-based aerial photographs; (3) rescuing data at risk by purchasing archival-quality drop-front storage boxes and folders for the entire county-based aerial photograph collection (~16,000 9”x9” photographs); and (4) rescuing data at risk by re-housing ~6,100 of the 1930s – 1950s county-based aerial photographs into the

above-referenced archival boxes and transferring these photographs to an MSA facility for permanent storage. MGS scanned ~80 more photographs than expected, and transferred ~1,100 more photographs to MSA than originally proposed.

Although MGS did not submit any new metadata records to the USGS's *ScienceBase Catalog* during the FY15 NNGDPP grant year, MGS is updating and improving its internal metadata for its county-based aerial photography collection (Component 1) via its comprehensive QA/QC of the records in its internal aerial photograph database. MGS plans to submit final, updated metadata for this component once a thorough QA/QC has been completed for all records comprising the collection.

Independent of the grant, MSA and JHU generously donated their services to further MGS's data preservation efforts. Currently, the 1930s, 1950s, 1960s, 1970s, and 1980s county aerial photograph index maps (Component 4) and the Montgomery County photographic enlargements (Component 3) are available to the public online via MSA's *Guide to Government Records* website. JHU's *JScholarship* website is currently hosting the 1930s and 1950s county aerial photograph index maps (Component 4), as well as assorted county-based aerial photographs of Baltimore County and City from the 1930s and 1950s (Component 1). JHU, through its interlibrary loan capabilities, also generously helped MGS temporarily acquire a series of field notes, maps, and cross-sections by a USGS geologist that were housed at the USGS facility in Denver, CO. MSA also provided the services of an Archivist I/Scanner Operator to assist MGS with its FY2015 NNGDPP scanning task.

During the summer of 2016, MGS also prepared an inventory of the Survey's paper and digital records and a records retention schedule for each identified series. This work was submitted to MD DNR's Records Retention Working Group in October of 2016 to update the obsolete MD DNR records retention policy created back in the early 1990s.

Since preliminary metadata creation for MGS's aerial photograph collection is complete, MGS is currently focusing on scanning the remaining photographs in the collection; finalizing metadata records via a comprehensive QA/QC process; making the digital scans of this collection accessible to the public; and transferring the paper aerial photographs and index maps to MSA, a state facility better suited for their long-term preservation. As the preservation of its aerial photograph collection draws closer to completion, MGS is also focusing on future collections to inventory and preserve, such as the rock core collection. Looking forward, MGS will continue documenting its remaining collections, seek funding for and prepare all of the collections for long-term preservation, and continue investigating possible mechanisms for public access to the collections.

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APPENDICES

Appendix 1. MGS's Permanent Collections and Their Preservation Status

Status of MGS permanent collections, by NGGDPP collection category, as of September 2014 (shaded cells indicate that the activity is complete).							
Collection category	Permanent collections (N)	Items in collection*	Collection inventory	Metadata creation	Digital infrastructure	Internet accessibility	Education/outreach
PHYSICAL COLLECTIONS							
1. Auger samples							
2. Fluid samples							
3. Geochemical samples							
4. Hand samples	2						
<i>Maryland Rocks and Minerals</i> (P1510)		99 (203)	NGGDPP 2008	NGGDPP 2010			
<i>Exhibition Flasks: Mineral Commodities of Maryland</i> (P1692)		38	NGGDPP 2010	NGGDPP 2010			
5. Ice cores							
6. Paleontological samples	1						
<i>Maryland Macrofossils</i> (P1518)		156 (200) species; 1500 specimens	NGGDPP 2008	NGGDPP 2010			
7. Rock cores	1						
Rock Cores (P1531)		200	NGGDPP 2008	NGGDPP 2015			
8. Rock cuttings	1						
Rock Cuttings (P1532)		200,000	NGGDPP 2008				
9. Sediment cores	4						
Coastal Plain Cores (P1507)		125	NGGDPP 2008	NGGDPP 2009			
Atlantic Continental Shelf Cores (P993)		282	NGGDPP 2008	NGGDPP 2009			

Collection category	Permanent collections (N)	Items in collection*	Collection inventory	Metadata creation	Digital infrastructure	Internet accessibility	Education/outreach
Chesapeake Bay Cores (P1648)		4,255	NGGDPP 2009	NGGDPP 2009			
Heavy Minerals, Atlantic Coastal Shelf (P1519)		250					
10. Sidewall cores							
11. Thin sections and polished sections							
12. Type stratigraphic sections							
Subtotal	9						
DERIVED/INDIRECT DATA							
13. Drilling/completion reports	1						
Well Permits and Well Completion Reports, Maryland (P1526)		500,000	NGGDPP 2008				
14. Drill stem and other tests	1						
Aquifer (Pump) Tests, Maryland Coastal Plain (P1521)		262	NGGDPP 2008				
15. Field notes	1						
Geology Field Notebooks, Maryland (P1522)		70	NGGDPP 2008				
16. Geochemical data	1						
Maryland Groundwater Quality Data (P1530)		?	NGGDPP 2008				
17. Geophysical data							
18. Lithology logs	1						
Geological (Lithological) Descriptions of Coastal Plain Cores and Well Cuttings, MD and VA (P1527)		52	NGGDPP 2008				
19. Maps	1						
MGS Maps, including Oversized Inserts in MGS Publications (no USGS ID)		1500	In progress (9/2015)	In progress (9/2015)			
20. Paleomagnetic resistivity							
21. Paper reports	3						

Collection category	Permanent collections (N)	Items in collection*	Collection inventory	Metadata creation	Digital infrastructure	Internet accessibility	Education/outreach
Published MGS Reports		~500	In progress (9/2015)	In progress (9/2015)			
Unpublished MGS Reports (P1553)		300	NGGDPP 2008	In progress (9/2015)			
Doctoral Dissertations on Maryland Geology (P1523)		28	NGGDPP 2008				
22. Petrophysical data							
23. Photographs	12						
<i>Historical (1948-1977) Photographs of Tidal Shorelines, Maryland (P1565)</i> (components: (1) envelopes of photos and assoc. film negatives, (2) slides)		(1) ~1,300 (2) 12,000	NGGDPP 2008	(1) 11/2013 (2) to be done			
X-rays and Xeroradiographs of Marine and Estuarine Sediment Cores, MD		300	NGGDPP 2008				
<i>Historical Air Photo Index Maps of Maryland, 1936-1980</i>		395	NGGDPP 2011	NGGDPP 2011	2012-2015 (JHU and MSA)		
<i>Historical Aerial Photographs of Maryland, 1937-1990, County Collection (P1603)</i>		16,074	NGGDPP 2008	NGGDPP 2011-2012	NGGDPP 2012-2015		
<i>Historical Aerial Photographs of Maryland, 1936-1991, Quad Collection</i>		4,867	NGGDPP 2012	NGGDPP 2013	2015 – USGS EROS		
<i>Historical Aerial Photographs of Fenwick and Assateague Islands, Maryland, 1952-1964 (P1691)</i>		505	NGGDPP 2010	NGGDPP 2010-2011	2011 (JHU)		
<i>Historical (1966-1974) Aerial Photographs of the Rockville-Laurel Area, Montgomery County, Maryland</i>		176	NGGDPP 2012	NGGDPP 2012	2015 (MSA)		

Collection category	Permanent collections (N)	Items in collection* (N)	Collection inventory	Metadata creation	Digital infrastructure	Internet accessibility	Education/outreach
<i>Historical Aerial Photographs of MD, PA, VA, and WV, 1977-1983, Black-and-White High Altitude Collection</i>		211	NGGDPP 2014	NGGDPP 2014	2015 – USGS EROS		
<i>Historical Aerial Photographs of Maryland, 1970-1974, High-Altitude Infrared Collection</i>		48	NGGDPP 2014	NGGDPP 2014	NGGDPP 2016		
<i>Historical Aerial Photographs of Maryland, 1988-1989, Quad-Based Infrared Collection</i>		196	NGGDPP 2014	NGGDPP 2014	2015 – USGS EROS		
<i>Historical Aerial Photographs of Washington, DC, MD, and VA, 1935-1939 and circa 1950</i>		1,706	NGGDPP 2014	NGGDPP 2014	NGGDPP 2016		
<i>Historical Aerial Photographs of Maryland, 1987-1989, USGS NWIS Well-Related Collection</i>		45	NGGDPP 2014	NGGDPP 2014	2015 – USGS EROS		
24. Potential fields							
25. Production history							
26. Routine analysis data	2						
Marine and Estuarine Beach and Bottom Sediment Data (P1612)		~50	NGGDPP 2008	(NGGDPP 2010)			
Paleontological and Palynological Data Derived from MD Water Wells (P1524)		?	NGGDPP 2008				
27. Scout tickets							
28. Seismic data	1						
Marine and Estuarine Seismic Profile Prints (P1554)		240	NGGDPP 2008				
29. Source rock maturity analysis							
30. Special analysis data							
31. Stratigraphic horizons							
32. Surface and airborne data	3						

Collection category	Permanent collections (N)	Items in collection* (N)	Collection inventory	Metadata creation	Digital infrastructure	Internet accessibility	Education/outreach
Bathymetric Surveys, MD Water Bodies (P1547)		8	NGGDPP 2008	NGGDPP 2010			
Elevation Surveys of Arnold, Broad Creek, and Crofton Meadows Well Fields, Anne Arundel Co., MD (P1529)		15	NGGDPP 2008				
Beach Profiles, Coastal Maryland (P1613)		?	NGGDPP 2008				
33. 2-D and 3-D seismic reflection	1						
2-D Seismic Reflection Profiles, Maryland Coastal Plain (P1520)		2	NGGDPP 2008				
34. Vertical seismic profiles							
35. Well logs	2						
Geophysical Logs, Western Maryland Deep Wells (P1528)		337	NGGDPP 2008	NGGDPP 2010			
Well Logs, Maryland and Neighboring States (P1525)		2,000	NGGDPP 2008				
Subtotal	30						
Collection category	Permanent collections (N)	Items in collection*	Collection inventory	Metadata creation	Digital infrastructure	Internet accessibility	Education/outreach
TOTAL	39						

Appendix 2. MSA Pre-Transfer Record Condition Assessment Form

Maryland State Archives

Pre-Transfer Record Condition Assessment Form

Agency Name: Maryland Geological Survey (MD Department of Natural Resources)
Agency Address: 2300 Saint Paul Street, Baltimore, MD 21218
Agency Phone Number: 410-554-5500

Current Storage Conditions: (e.g. in boxes on floor, on shelves; offsite storage, ect.)

The 9"x9" photographs comprising our county-based aerial photograph collection are currently stored vertically in manila folders in metal file cabinets in the MGS Library. We are in the process of re-housing these photographs into acid-free, lignin-free archival drop-front boxes. Photos that are in poor condition will be placed in individual acid-free, lignin-free folders within the boxes.

Has Storage area ever had problems with any of the following?

- Flooding
- Leaks
- Fire
- Mildew
- Insects
- Rodents
- Other (please list): Lack of environmental control (temperature/humidity vary greatly with the seasons in the MGS Library).

If so, please explain the problem and how it was resolved:

We have not had funding to address the lack of environmental control in the MGS building. As such, the photographs have remained stored under these conditions.

Were the records damaged as a result? If so, please explain:

A small percentage of the photographs may have become moldy, due to excessive humidity and lack of ventilation. However, we did not encounter any moldy photographs during the current boxing effort.

General Conditions of the Records (check all that apply):

- Surface dirt
- Tears
- Folds/creases
- Stains/discoloration
- Residues/accretions
- Insect damage/remains
- Water damage/mildew
- Separated pages
- Brittle paper
- Lacy paper
- Tunnels in pages
- Sawdust accumulation
- Broken/detached cover
- Odor

Additional Comments:

Some photographs have writing on them (front and/or back) in marker or pen. Usually these annotations are scientists' notes or the delineation of study areas.

Appendix 3. MSA Preliminary Inventory Worksheet

**Maryland State Archives
Preliminary Inventory Worksheet**

Date:	Finalized 8/19/16	<i>(e.g. date form is filled out)</i>
Agency:	Maryland Geological Survey (MD DNR)	<i>(e.g. Baltimore City Circuit Court)</i>
Series Name:	County-Based Aerial Photograph Collection	<i>(e.g. civil papers)</i>
Series T Number:		<i>(e.g. T2691 - may be left blank if unknown)</i>
Retention Schedule: Number:	Permanent. MD DNR Records Retention Schedule is currently being created; item number citation unknown.	<i>(Provide schedule & item number citation for these records)</i>
Restriction Citation:	N/A	<i>(If this series needs to be restricted, provide the legal citation)</i>

NOTE: Please use as many lines below as needed. Different series will need a separate spreadsheet or tab.

Box ID	Folder ID (comprised of Box ID-Folder #)	Title as found on volume or brief description of contents of box	Dates Covered by Contents
001	001-01	Allegany County - Flight Series AMN-3	04/19/1938
	001-01	Allegany County - Flight Series AMN-4	04/23/1938
	001-01	Allegany County - Flight Series AMN-8	05/02/1938
	001-02	Anne Arundel County - Flight Series AHR-4	04/12/1938
	001-02	Anne Arundel County - Flight Series AHR-2	05/01/1938
	001-03	Anne Arundel County - Flight Series AHR-4	04/12/1938
	001-04	Anne Arundel County - Flight Series AHR-4	04/12/1938
	001-05	Anne Arundel County - Flight Series AHR-4	04/12/1938
	001-06	Anne Arundel County - Flight Series AHR-4	04/12/1938
	001-07	Anne Arundel County - Flight Series AHR-4	04/12/1938
	001-08	Anne Arundel County - Flight Series AHR-4	04/12/1938
002	002-01	Anne Arundel County - Flight Series AHR-4	04/12/1938
	002-02	Anne Arundel County - Flight Series AHR-4	04/12/1938
	002-03	Anne Arundel County - Flight Series AHR-4	04/12/1938
	002-03	Anne Arundel County - Flight Series AHR-5	04/14/1938
	002-04	Anne Arundel County - Flight Series AHR-5	04/14/1938
	002-05	Anne Arundel County - Flight Series AHR-5	04/14/1938
	002-06	Anne Arundel County - Flight Series AHR-5	04/14/1938
	002-07	Anne Arundel County - Flight Series AHR-5	04/14/1938
	002-08	Anne Arundel County - Flight Series AHR-5	04/14/1938
	002-09	Anne Arundel County - Flight Series AHR-5	04/14/1938
	002-10	Anne Arundel County - Flight Series AHR-5	04/14/1938
003	003-01	Anne Arundel County - Flight Series AHR-6	04/15/1938
	003-02	Anne Arundel County - Flight Series AHR-6	04/15/1938
	003-02	Anne Arundel County - Flight Series AHR-6	04/16/1938
	003-03	Anne Arundel County - Flight Series AHR-6	04/16/1938
	003-04	Anne Arundel County - Flight Series AHR-6	04/16/1938

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003	003-05	Anne Arundel County - Flight Series AHR-6	04/16/1938
	003-06	Anne Arundel County - Flight Series AHR-6	04/16/1938
	003-07	Anne Arundel County - Flight Series AHR-6	04/16/1938
	003-08	Anne Arundel County - Flight Series AHR-6	04/16/1938
	003-09	Anne Arundel County - Flight Series AHR-6	04/16/1938
	003-09	Anne Arundel County - Flight Series AHR-8	04/23/1938
	003-10	Baltimore County - Flight Series AJO-66	11/24/1937
004	004-01	Baltimore County - Flight Series AJO-66	11/24/1937
	004-01	Baltimore County - Flight Series AJO-70	12/03/1937
	004-01	Baltimore County - Flight Series AJO-1	04/05/1938
	004-02	Baltimore County - Flight Series AJO-1	04/05/1938
	004-03	Baltimore County - Flight Series AJO-1	04/05/1938
	004-04	Baltimore County - Flight Series AJO-1	04/05/1938
	004-04	Baltimore County - Flight Series AJO-2	04/11/1938
	004-05	Baltimore County - Flight Series AJO-2	04/11/1938
	004-05	Baltimore County - Flight Series AJO-3	04/11/1938
	004-06	Baltimore County - Flight Series AJO-3	04/11/1938
	004-06	Baltimore County - Flight Series AJO-8	04/23/1938
	004-07	Baltimore County - Flight Series AJO-8	04/23/1938
	004-08	Baltimore County - Flight Series AJO-8	04/23/1938
	004-09	Baltimore County - Flight Series AJO-8	04/23/1938
004-09	Baltimore County - Flight Series AJO-9	04/23/1938	
004-09	Baltimore County - Flight Series AJO-15	05/02/1938	
005	005-01	Calvert County - Flight Series AHS-4	04/12/1938
	005-01	Calvert County - Flight Series AHS-7	04/20/1938
	005-02	Calvert County - Flight Series AHS-7	04/20/1938
	005-03	Calvert County - Flight Series AHS-7	04/20/1938
	005-04	Calvert County - Flight Series AHS-7	04/20/1938
	005-05	Calvert County - Flight Series AHS-7	04/20/1938
	005-06	Calvert County - Flight Series AHS-7	04/20/1938
	005-07	Calvert County - Flight Series AHS-7	04/20/1938
	005-08	Calvert County - Flight Series AHS-7	04/20/1938
	005-09	Calvert County - Flight Series AHS-7	04/20/1938
005-10	Calvert County - Flight Series AHS-7	04/20/1938	
006	006-01	Calvert County - Flight Series AHS-7	04/20/1938
	006-02	Calvert County - Flight Series AHS-7	04/20/1938
	006-02	Calvert County - Flight Series AHS-10	04/24/1938
	006-03	Calvert County - Flight Series AHS-10	04/24/1938
	006-04	Calvert County - Flight Series AHS-10	04/24/1938
	006-05	Calvert County - Flight Series AHS-10	04/24/1938
	006-06	Calvert County - Flight Series AHS-10	04/24/1938
	006-07	Carroll County - Flight Series AGZ-19	09/24/1937
006-07	Carroll County - Flight Series AGZ-20	09/24/1937	
006-08	Carroll County - Flight Series AGZ-49	12/03/1937	

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006	006-08	Carroll County - Flight Series AGZ-53	12/03/1937
	006-09	Carroll County - Flight Series AGZ-53	12/03/1937
	006-10	Carroll County - Flight Series AGZ-66	11/24/1937
	006-10	Carroll County - Flight Series AGZ-53	12/03/1937
007	007-01	Carroll County - Flight Series AGZ-66	11/24/1937
	007-02	Carroll County - Flight Series AGZ-66	11/24/1937
	007-02	Carroll County - Flight Series AGZ-71	12/03/1937
	007-03	Carroll County - Flight Series AGZ-71	12/03/1937
	007-04	Carroll County - Flight Series AGZ-71	12/03/1937
	007-04	Carroll County - Flight Series AGZ-78	02/08/1938
	007-05	Carroll County - Flight Series AGZ-78	02/08/1938
	007-06	Carroll County - Flight Series AGZ-78	02/08/1938
	007-06	Carroll County - Flight Series AGZ-79	02/08/1938
	007-06	Carroll County - Flight Series AGZ-81	03/21/1938
	007-07	Carroll County - Flight Series AGZ-81	03/21/1938
	007-08	Carroll County - Flight Series AGZ-81	03/21/1938
	007-09	Carroll County - Flight Series AGZ-81	03/21/1938
	007-10	Carroll County - Flight Series AGZ-81	03/21/1938
007-10	Carroll County - Flight Series AGZ-83	03/22/1938	
008	008-01	Cecil County - Flight Series ANI-12	04/25/1938
	008-01	Cecil County - Flight Series ANI-15	05/02/1938
	008-02	Cecil County - Flight Series ANI-15	05/02/1938
	008-03	Charles County - Flight Series AHU-1	06/22/1937
	008-04	Charles County - Flight Series AHU-1	06/22/1937
	008-05	Charles County - Flight Series AHU-1	06/22/1937
	008-06	Charles County - Flight Series AHU-1	06/22/1937
	008-06	Charles County - Flight Series AHU-2	06/22/1937
	008-07	Charles County - Flight Series AHU-2	06/22/1937
	008-07	Charles County - Flight Series AHU-4	06/23/1937
	008-07	Charles County - Flight Series AHU-21	07/28/1937
	008-08	Charles County - Flight Series AHU-21	07/28/1937
	008-08	Charles County - Flight Series AHU-30	08/28/1937
	008-08	Charles County - Flight Series AHU-32	09/08/1937
	008-09	Dorchester County - Flight Series ANJ-13	05/01/1938
	008-09	Dorchester County - Flight Series ANJ-19	05/07/1938
008-10	Frederick County - Flight Series AHA-19	09/24/1937	
009	009-01	Frederick County - Flight Series AHA-19	09/24/1937
	009-01	Frederick County - Flight Series AHA-20	09/24/1937
	009-02	Frederick County - Flight Series AHA-20	09/24/1937
	009-02	Frederick County - Flight Series AHA-49	12/03/1937
	009-03	Frederick County - Flight Series AHA-49	12/03/1937
	009-03	Frederick County - Flight Series AHA-53	12/03/1937
	009-04	Frederick County - Flight Series AHA-53	12/03/1937
009-04	Frederick County - Flight Series AHA-70	03/21/1938	

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009	009-04	Frederick County - Flight Series AHA-86	04/12/1938
	009-05	Frederick County - Flight Series AHA-86	04/12/1938
	009-06	Garrett County - Flight Series AMO-8	05/02/1938
	009-06	Garrett County - Flight Series AMO-9	05/31/1938
	009-07	Garrett County - Flight Series AMO-9	05/31/1938
	009-08	Garrett County - Flight Series AMO-9	05/31/1938
	009-08	Garrett County - Flight Series AMO-10	05/31/1938
	009-09	Garrett County - Flight Series AMO-10	05/31/1938
	009-09	Garrett County - Flight Series AMO-10	08/13/1938
	009-10	Garrett County - Flight Series AMO-10	08/13/1938
010	010-01	Garrett County - Flight Series AMO-11	08/14/1938
	010-02	Garrett County - Flight Series AMO-11	08/14/1938
	010-02	Garrett County - Flight Series AMO-12	08/20/1938
	010-03	Garrett County - Flight Series AMO-12	08/20/1938
	010-04	Garrett County - Flight Series AMO-12	08/20/1938
	010-05	Garrett County - Flight Series AMO-12	08/20/1938
	010-05	Garrett County - Flight Series AMO-12	08/29/1938
	010-06	Garrett County - Flight Series AMO-12	08/29/1938
	010-06	Garrett County - Flight Series AMO-12	08/30/1938
	010-07	Garrett County - Flight Series AMO-12	08/30/1938
	010-08	Garrett County - Flight Series AMO-12	08/30/1938
	010-09	Garrett County - Flight Series AMO-15	10/02/1938
	010-10	Garrett County - Flight Series AMO-15	10/02/1938
	010-10	Garrett County - Flight Series AMO-16	10/16/1938
011	011-01	Garrett County - Flight Series AMO-16	10/16/1938
	011-01	Garrett County - Flight Series AMO-18	10/25/1938
	011-02	Garrett County - Flight Series AMO-18	10/25/1938
	011-03	Harford County - Flight Series ANK-1	04/05/1938
	011-03	Harford County - Flight Series ANK-9	04/23/1938
	011-04	Howard County - Flight Series NP-72	12/03/1937
	011-05	Montgomery County - Flight Series NV-74	12/11/1937
	011-05	Montgomery County - Flight Series NV-79	02/08/1938
	011-06	Montgomery County - Flight Series NV-1	04/11/1938
	011-07	Montgomery County - Flight Series NV-1	04/11/1938
012	012-01	Prince George's County - Flight Series FG-113	04/19/1937
	012-02	Prince George's County - Flight Series FG-113	04/19/1937
	012-03	Prince George's County - Flight Series FG-113	04/19/1937
	012-03	Prince George's County - Flight Series FG-118	04/30/1937
	012-04	Prince George's County - Flight Series FG-118	04/30/1937
	012-05	Prince George's County - Flight Series FG-118	04/30/1937
	012-06	Prince George's County - Flight Series FG-118	04/30/1937
012-07	Prince George's County - Flight Series FG-118	04/30/1937	

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012	012-08	Prince George's County - Flight Series FG-118	04/30/1937
	012-09	Prince George's County - Flight Series FG-118	04/30/1937
	012-10	Prince George's County - Flight Series FG-118	04/30/1937
013	013-01	Prince George's County - Flight Series FG-118	04/30/1937
	013-02	Prince George's County - Flight Series FG-118	04/30/1937
	013-03	Prince George's County - Flight Series FG-118	04/30/1937
	013-04	Prince George's County - Flight Series FG-118	04/30/1937
	013-05	Prince George's County - Flight Series FG-118	04/30/1937
	013-06	Prince George's County - Flight Series FG-118	04/30/1937
	013-06	Prince George's County - Flight Series FG-119	04/30/1937
	013-07	Prince George's County - Flight Series FG-119	04/30/1937
	013-08	Prince George's County - Flight Series FG-119	04/30/1937
	013-09	Prince George's County - Flight Series FG-119	04/30/1937
014	013-09	Prince George's County - Flight Series FG-132	05/31/1937
	013-10	Prince George's County - Flight Series FG-132	05/31/1937
	014-01	Prince George's County - Flight Series FG-132	05/31/1937
	014-02	Prince George's County - Flight Series FG-132	05/31/1937
	014-03	Prince George's County - Flight Series FG-132	05/31/1937
	014-04	Prince George's County - Flight Series FG-132	05/31/1937
	014-05	Prince George's County - Flight Series FG-132	05/31/1937
	014-06	Prince George's County - Flight Series FG-135	05/31/1937
	014-07	Prince George's County - Flight Series FG-135	05/31/1937
	014-08	Prince George's County - Flight Series FG-135	05/31/1937
015	014-09	Prince George's County - Flight Series FG-135	05/31/1937
	014-10	Prince George's County - Flight Series FG-135	05/31/1937
	015-01	Prince George's County - Flight Series FG-133	06/09/1937
	015-02	Prince George's County - Flight Series FG-133	06/09/1937
	015-02	Prince George's County - Flight Series AHV-4	06/23/1937
	015-02	Prince George's County - Flight Series AHV-30	08/28/1937
	015-03	Prince George's County - Flight Series AHV-32	09/08/1937
	015-03	Prince George's County - Flight Series AHV-1	04/11/1938
	015-04	Prince George's County - Flight Series AHV-1	04/11/1938
016	015-05	Prince George's County - Flight Series AHV-1	04/11/1938
	015-06	Prince George's County - Flight Series AHV-1	04/11/1938
	015-07	Prince George's County - Flight Series AHV-1	04/11/1938
	015-08	Prince George's County - Flight Series AHV-1	04/11/1938
	016-01	Prince George's County - Flight Series AHV-1	04/11/1938
	016-02	Prince George's County - Flight Series AHV-1	04/11/1938
	016-02	Prince George's County - Flight Series AHV-4	04/12/1938
016-03	Prince George's County - Flight Series AHV-4	04/12/1938	
016-04	Prince George's County - Flight Series AHV-2	05/01/1938	
016-05	Prince George's County - Flight Series AHV-2	05/01/1938	
016-06	Prince George's County - Flight Series AHV-2	05/01/1938	
016-07	Prince George's County - Flight Series AHV-2	05/01/1938	

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017	017-01	Prince George's County - Flight Series AHV-2	05/01/1938
	017-02	Prince George's County - Flight Series AHV-2	05/01/1938
	017-03	Prince George's County - Flight Series AHV-3	05/01/1938
	017-04	Prince George's County - Flight Series AHV-3	05/01/1938
	017-05	Prince George's County - Flight Series AHV-3	05/01/1938
	017-06	Prince George's County - Flight Series AHV-3	05/01/1938
	017-07	Prince George's County - Flight Series AHV-3	05/01/1938
018	018-01	Queen Anne's County - Flight Series AHW-5	06/24/1937
	018-01	Queen Anne's County - Flight Series AHW-6	6/24/1937
	018-01	Queen Anne's County - Flight Series AHW-7	6/24/1937
	018-01	Queen Anne's County - Flight Series AHW-28	08/20/1937
	018-01	Queen Anne's County - Flight Series AHW-37	09/10/1937
	018-02	Somerset County - Flight Series ANL-16	05/03/1938
	018-02	Somerset County - Flight Series ANL-18	05/06/1938
	018-02	Somerset County - Flight Series ANL-20	05/07/1938
	018-02	Somerset County - Flight Series MD-21	07/24/1949
	018-03	St. Mary's County - Flight Series AHX-7	04/20/1938
	018-03	St. Mary's County - Flight Series AHX-10	04/24/1938
	018-04	Talbot County - Flight Series AHY-5	06/24/1937
	018-05	Talbot County - Flight Series AHY-6	06/24/1937
	018-06	Talbot County - Flight Series AHY-27	08/16/1937
	018-07	Talbot County - Flight Series AHY-28	08/20/1937
018-08	Talbot County - Flight Series AHY-36	09/10/1937	
018-08	Talbot County - Flight Series AHY-63	11/14/1937	
019	019-01	Wicomico County - Flight Series ANM-16	05/03/1938
	019-01	Wicomico County - Flight Series ANM-18	05/06/1938
	019-02	Wicomico County - Flight Series ANM-19	05/07/1938
	019-02	Wicomico County - Flight Series ANM-20	05/07/1938
	019-03	Wicomico County - Flight Series ANM-20	05/07/1938
	019-03	Wicomico County - Flight Series ANM-26	06/07/1938
	019-04	Anne Arundel County - Flight Series AHR-1K	06/20/1952
	019-05	Anne Arundel County - Flight Series AHR-1K	06/20/1952
	019-06	Anne Arundel County - Flight Series AHR-1K	06/20/1952
	019-07	Anne Arundel County - Flight Series AHR-1K	06/20/1952
019-08	Anne Arundel County - Flight Series AHR-1K	06/20/1952	
019-09	Anne Arundel County - Flight Series AHR-1K	06/20/1952	
019-10	Anne Arundel County - Flight Series AHR-1K	06/20/1952	
020	020-01	Anne Arundel County - Flight Series AHR-1K	06/20/1952
	020-02	Anne Arundel County - Flight Series AHR-1K	06/20/1952
	020-03	Anne Arundel County - Flight Series AHR-1K	06/20/1952
	020-04	Anne Arundel County - Flight Series AHR-1K	06/20/1952
	020-05	Anne Arundel County - Flight Series AHR-1K	06/20/1952
	020-06	Anne Arundel County - Flight Series AHR-1K	06/20/1952
	020-07	Anne Arundel County - Flight Series AHR-1K	06/20/1952

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020	020-08	Anne Arundel County - Flight Series AHR-2K	06/20/1952
	020-09	Anne Arundel County - Flight Series AHR-4K	07/02/1952
	020-10	Anne Arundel County - Flight Series AHR-4K	07/02/1952
021	021-01	Anne Arundel County - Flight Series AHR-4K	07/02/1952
	021-02	Anne Arundel County - Flight Series AHR-4K	07/02/1952
	021-03	Anne Arundel County - Flight Series AHR-4K	07/02/1952
	021-03	Anne Arundel County - Flight Series AHR-6K	10/04/1952
	021-04	Anne Arundel County - Flight Series AHR-6K	10/04/1952
	021-05	Anne Arundel County - Flight Series AHR-7K	10/17/1952
	021-06	Anne Arundel County - Flight Series AHR-7K	10/17/1952
	021-07	Anne Arundel County - Flight Series AHR-7K	10/17/1952
	021-08	Anne Arundel County - Flight Series AHR-7K	10/17/1952
	021-09	Anne Arundel County - Flight Series AHR-7K	10/17/1952
021-10	Anne Arundel County - Flight Series AHR-7K	10/17/1952	
022	022-01	Baltimore County - Flight Series AJO-3K	07/12/1952
	022-02	Baltimore County - Flight Series AJO-4K	07/25/1952
	022-03	Baltimore County - Flight Series AJO-4K	07/25/1952
	022-04	Baltimore County - Flight Series AJO-4K	07/25/1952
	022-05	Baltimore County - Flight Series AJO-4K	07/25/1952
	022-06	Baltimore County - Flight Series AJO-4K	07/25/1952
	022-07	Baltimore County - Flight Series AJO-4K	07/25/1952
	022-08	Baltimore County - Flight Series AJO-5K	08/23/1952
	022-09	Baltimore County - Flight Series AJO-5K	08/23/1952
	022-10	Baltimore County - Flight Series AJO-5K	08/23/1952
023	023-01	Baltimore County - Flight Series AJO-5K	08/23/1952
	023-02	Baltimore County - Flight Series AJO-5K	08/23/1952
	023-03	Baltimore County - Flight Series AJO-5K	08/23/1952
	023-04	Baltimore County - Flight Series AJO-5K	08/23/1952
	023-05	Baltimore County - Flight Series AJO-5K	08/23/1952
	023-06	Baltimore County - Flight Series AJO-5K	08/23/1952
	023-07	Baltimore County - Flight Series AJO-5K	08/23/1952
	023-08	Baltimore County - Flight Series AJO-5K	08/23/1952
	023-08	Baltimore County - Flight Series AJO-6K	08/26/1952
	023-09	Baltimore County - Flight Series AJO-6K	08/26/1952
023-10	Baltimore County - Flight Series AJO-6K	08/26/1952	
024	024-01	Baltimore County - Flight Series AJO-6K	08/26/1952
	024-02	Baltimore County - Flight Series AJO-6K	08/26/1952
	024-03	Baltimore County - Flight Series AJO-6K	08/26/1952
	024-04	Baltimore County - Flight Series AJO-6K	08/26/1952
	024-05	Baltimore County - Flight Series AJO-6K	08/26/1952
	024-06	Baltimore County - Flight Series AJO-6K	08/26/1952
	024-07	Baltimore County - Flight Series AJO-6K	08/26/1952
	024-08	Baltimore County - Flight Series AJO-6K	08/26/1952
025	025-01	Baltimore County - Flight Series AJO-6K	08/26/1952

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025	025-02	Baltimore County - Flight Series AJO-6K	08/26/1952
	025-03	Baltimore County - Flight Series AJO-6K	08/26/1952
	025-04	Baltimore County - Flight Series AJO-6K	08/26/1952
	025-05	Baltimore County - Flight Series AJO-6K	08/26/1952
	025-06	Baltimore County - Flight Series AJO-6K	08/26/1952
	025-07	Baltimore County - Flight Series AJO-6K	08/26/1952
	025-08	Baltimore County - Flight Series AJO-6K	08/26/1952
026	026-01	Baltimore County - Flight Series AJO-6K	08/26/1952
	026-02	Baltimore County - Flight Series AJO-6K	08/26/1952
	026-03	Baltimore County - Flight Series AJO-6K	08/26/1952
	026-04	Baltimore County - Flight Series AJO-6K	08/26/1952
	026-05	Baltimore County - Flight Series AJO-7K	09/14/1952
	026-06	Baltimore County - Flight Series AJO-7K	09/14/1952
	026-07	Baltimore County - Flight Series AJO-7K	09/14/1952
	026-08	Baltimore County - Flight Series AJO-7K	09/14/1952
027	027-01	Baltimore County - Flight Series AJO-7K	10/22/1952
	027-02	Baltimore County - Flight Series AJO-7K	10/22/1952
	027-03	Baltimore County - Flight Series AJO-7K	10/22/1952
	027-03	Baltimore County - Flight Series AJO-7K	11/29/1952
	027-04	Baltimore County - Flight Series AJO-8K	02/14/1953
	027-05	Baltimore County - Flight Series AJO-8K	02/14/1953
	027-06	Baltimore County - Flight Series AJO-8K	02/14/1953
	027-07	Baltimore County - Flight Series AJO-8K	02/14/1953
	027-08	Baltimore County - Flight Series AJO-8K	02/14/1953
027-09	Baltimore County - Flight Series AJO-8K	02/14/1953	
028	028-01	Baltimore County - Flight Series 431-7	04/24/1953
	028-02	Baltimore County - Flight Series 431-7	04/24/1953
	028-03	Baltimore County - Flight Series 431-7	04/24/1953
	028-03	Baltimore County - Flight Series 431-9	04/24/1953
	028-04	Baltimore County - Flight Series 431-9	04/24/1953
	028-05	Baltimore County - Flight Series 431-9	04/24/1953
	028-05	Baltimore County - Flight Series 431-11	04/24/1953
	028-06	Baltimore County - Flight Series 431-11	04/24/1953
029	029-01	Baltimore County - Flight Series 431-13	04/24/1953
	029-01	Baltimore County - Flight Series 431-15	04/24/1953
	029-01	Baltimore County - Flight Series 431-16	04/24/1953
	029-02	Baltimore County - Flight Series 431-16	04/24/1953
	029-03	Baltimore County - Flight Series 431-16	04/24/1953
	029-03	Baltimore County - Flight Series 431-17	04/24/1953
	029-04	Baltimore County - Flight Series 431-17	04/24/1953
029-05	Baltimore County - Flight Series 431-17	04/24/1953	
029-05	Baltimore County - Flight Series 431-17	04/24/1953	
029-05	Baltimore County - Flight Series 431-18	04/24/1953	

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029	029-06	Baltimore County - Flight Series 431-18	04/24/1953
	029-07	Baltimore County - Flight Series 431-18	04/24/1953
	029-07	Baltimore County - Flight Series 431-19	04/24/1953
	029-08	Baltimore County - Flight Series 431-19	04/24/1953
	029-08	Baltimore County - Flight Series 431-20	04/24/1953
030	030-01	Baltimore County - Flight Series 431-20	04/24/1953
	030-02	Baltimore County - Flight Series 431-21	04/24/1953
	030-03	Baltimore County - Flight Series 431-22	04/24/1953
	030-03	Baltimore County - Flight Series 431-19	05/09/1953
	030-04	Baltimore County - Flight Series 431-19	05/09/1953
	030-04	Baltimore County - Flight Series 431-2	05/10/1953
	030-05	Baltimore County - Flight Series 431-2	05/10/1953
	030-06	Baltimore County - Flight Series 431-3	05/10/1953
	030-07	Baltimore County - Flight Series 431-3	05/10/1953
030-07	Baltimore County - Flight Series 431-4	05/10/1953	
031	031-01	Baltimore County - Flight Series 431-4	05/10/1953
	031-01	Baltimore County - Flight Series 431-5	05/10/1953
	031-02	Baltimore County - Flight Series 431-5	05/10/1953
	031-03	Baltimore County - Flight Series 431-5	05/10/1953
	031-04	Baltimore County - Flight Series 431-6	05/10/1953
	031-05	Baltimore County - Flight Series 431-6	05/10/1953
	031-06	Baltimore County - Flight Series 431-8N	05/10/1953
032	031-07	Baltimore County - Flight Series 431-8S	05/10/1953
	032-01	Baltimore County - Flight Series 431-10	05/10/1953
	032-02	Baltimore County - Flight Series 431-10	05/10/1953
	032-02	Baltimore County - Flight Series 431-12	05/10/1953
	032-03	Baltimore County - Flight Series 431-12	05/10/1953
	032-03	Baltimore County - Flight Series 431-14	05/10/1953
	032-04	Baltimore County - Flight Series 431-14	05/10/1953
	032-05	Baltimore County - Flight Series AJO-5T	09/25/1957
	032-06	Baltimore County - Flight Series AJO-5T	09/25/1957
033	032-07	Baltimore County - Flight Series AJO-5T	09/25/1957
	032-07	Baltimore County - Flight Series AJO-6T	09/27/1957
	032-07	Baltimore County - Flight Series AJO-7T	10/03/1957
	033-01	Calvert County - Flight Series AHS-3K	06/26/1952
	033-02	Calvert County - Flight Series AHS-3K	06/26/1952
	033-03	Calvert County - Flight Series AHS-3K	06/26/1952
	033-04	Calvert County - Flight Series AHS-3K	06/26/1952
033-05	Calvert County - Flight Series AHS-3K	06/26/1952	
033-06	Calvert County - Flight Series AHS-3K	06/26/1952	
033-07	Calvert County - Flight Series AHS-3K	06/26/1952	
033-08	Calvert County - Flight Series AHS-4K	06/26/1952	
033-09	Calvert County - Flight Series AHS-4K	06/26/1952	

Box ID	Folder ID (comprised of Box ID-Folder #)	Title as found on volume or brief description of contents of box	Dates Covered by Contents
034	034-01	Calvert County - Flight Series AHS-4K	06/26/1952
	034-02	Calvert County - Flight Series AHS-4K	06/26/1952
	034-03	Calvert County - Flight Series AHS-4K	06/26/1952
	034-04	Calvert County - Flight Series AHS-4K	06/26/1952
	034-05	Calvert County - Flight Series AHS-4K	06/26/1952
	034-06	Calvert County - Flight Series AHS-4K	06/26/1952
	034-07	Calvert County - Flight Series AHS-4K	06/26/1952
	034-08	Calvert County - Flight Series AHS-4K	06/26/1952
	034-09	Calvert County - Flight Series AHS-4K	06/26/1952
035	035-01	Calvert County - Flight Series AHS-4K	06/26/1952
	035-02	Calvert County - Flight Series AHS-4K	06/26/1952
	035-02	Calvert County - Flight Series AHS-5K	07/02/1952
	035-03	Calvert County - Flight Series AHS-5K	07/02/1952
	035-04	Calvert County - Flight Series AHS-5K	07/02/1952
	035-05	Calvert County - Flight Series AHS-5K	07/02/1952
	035-06	Calvert County - Flight Series AHS-5K	07/02/1952
	035-07	Calvert County - Flight Series AHS-5K	07/02/1952
	035-08	Calvert County - Flight Series AHS-5K	07/02/1952
	035-09	Calvert County - Flight Series AHS-6K	10/22/1952
035-10	Calvert County - Flight Series AHS-5T	10/13/1957	
035-10	Calvert County - Flight Series AHS-6T	10/22/1957	
036	036-01	Caroline County - Flight Series AHT-1K	06/06/1952
	036-01	Caroline County - Flight Series AHT-1K	06/08/1952
	036-02	Caroline County - Flight Series AHT-2K	06/13/1952
	036-03	Caroline County - Flight Series AHT-2K	06/13/1952
	036-04	Caroline County - Flight Series AHT-2K	06/13/1952
	036-05	Caroline County - Flight Series AHT-2K	06/13/1952
	036-06	Caroline County - Flight Series AHT-2K	06/13/1952
	036-07	Caroline County - Flight Series AHT-2K	06/13/1952
	036-08	Caroline County - Flight Series AHT-2K	06/13/1952
	036-09	Caroline County - Flight Series AHT-2K	06/13/1952
	036-10	Caroline County - Flight Series AHT-2K	06/13/1952
036-10	Caroline County - Flight Series AHT-3K	06/13/1952	
037	037-01	Caroline County - Flight Series AHT-3K	06/13/1952
	037-02	Caroline County - Flight Series AHT-3K	06/13/1952
	037-03	Caroline County - Flight Series AHT-3K	06/13/1952
	037-04	Caroline County - Flight Series AHT-3K	06/13/1952
	037-05	Caroline County - Flight Series AHT-4K	06/13/1952
	037-06	Caroline County - Flight Series AHT-4K	06/13/1952
	037-06	Caroline County - Flight Series AHT-7K	10/04/1952
	037-07	Caroline County - Flight Series AHT-7K	10/04/1952
	037-08	Caroline County - Flight Series AHT-7K	10/04/1952
	037-09	Caroline County - Flight Series AHT-7K	10/04/1952
037-10	Caroline County - Flight Series AHT-7K	10/04/1952	

Box ID	Folder ID (comprised of Box ID-Folder #)	Title as found on volume or brief description of contents of box	Dates Covered by Contents
038	038-01	Caroline County - Flight Series AHT-7K	10/04/1952
	038-02	Caroline County - Flight Series AHT-7K	10/04/1952
	038-03	Caroline County - Flight Series AHT-7K	10/04/1952
	038-04	Carroll County - Flight Series AGZ-9K	10/24/1951
	038-05	Carroll County - Flight Series AGZ-9K	10/24/1951
	038-06	Carroll County - Flight Series AGZ-1K	09/04/1952
	038-07	Carroll County - Flight Series AGZ-1K	09/04/1952
039	039-01	Carroll County - Flight Series AGZ-5K	09/12/1952
	039-02	Carroll County - Flight Series AGZ-5K	09/12/1952
	039-03	Carroll County - Flight Series AGZ-5K	09/12/1952
	039-04	Carroll County - Flight Series AGZ-5K	09/12/1952
	039-05	Carroll County - Flight Series AGZ-5K	09/12/1952
	039-06	Carroll County - Flight Series AGZ-5K	09/12/1952
	039-07	Carroll County - Flight Series AGZ-5K	09/12/1952
040	040-01	Carroll County - Flight Series AGZ-6K	09/14/1952
	040-02	Carroll County - Flight Series AGZ-6K	09/14/1952
	040-03	Carroll County - Flight Series AGZ-6K	09/14/1952
	040-04	Carroll County - Flight Series AGZ-6K	09/14/1952
	040-05	Carroll County - Flight Series AGZ-6K	09/14/1952
	040-06	Carroll County - Flight Series AGZ-6K	09/14/1952
	040-07	Carroll County - Flight Series AGZ-6K	09/14/1952
041	041-01	Carroll County - Flight Series AGZ-6K	09/14/1952
	041-02	Carroll County - Flight Series AGZ-7K	09/14/1952
	041-03	Carroll County - Flight Series AGZ-7K	09/14/1952
	041-04	Carroll County - Flight Series AGZ-7K	09/14/1952
	041-05	Carroll County - Flight Series AGZ-7K	09/14/1952
	041-06	Carroll County - Flight Series AGZ-7K	09/14/1952
	041-07	Carroll County - Flight Series AGZ-7K	09/14/1952
042	042-01	Carroll County - Flight Series AGZ-7K	09/14/1952
	042-02	Carroll County - Flight Series AGZ-7K	09/14/1952
	042-03	Cecil County - Flight Series ANI-1K	07/02/1952
	042-04	Cecil County - Flight Series ANI-1K	07/02/1952
	042-05	Cecil County - Flight Series ANI-1K	07/02/1952
	042-06	Cecil County - Flight Series ANI-1K	07/02/1952
	042-07	Cecil County - Flight Series ANI-2K	07/02/1952
043	043-01	Cecil County - Flight Series ANI-2K	07/02/1952
	043-02	Cecil County - Flight Series ANI-2K	07/02/1952
	043-03	Cecil County - Flight Series ANI-2K	07/02/1952
	043-04	Cecil County - Flight Series ANI-2K	07/02/1952
	043-05	Cecil County - Flight Series ANI-2K	07/02/1952
	043-06	Cecil County - Flight Series ANI-2K	07/02/1952
	043-07	Cecil County - Flight Series ANI-2K	07/02/1952
	043-08	Cecil County - Flight Series ANI-2K	07/02/1952

Box ID	Folder ID (comprised of Box ID-Folder #)	Title as found on volume or brief description of contents of box	Dates Covered by Contents
044	044-01	Cecil County - Flight Series ANI-2K	07/02/1952
	044-02	Cecil County - Flight Series ANI-2K	07/02/1952
	044-03	Cecil County - Flight Series ANI-2K	07/02/1952
	044-04	Cecil County - Flight Series ANI-2K	07/02/1952
	044-05	Cecil County - Flight Series ANI-2K	07/02/1952
	044-06	Cecil County - Flight Series ANI-2K	07/02/1952
	044-07	Cecil County - Flight Series ANI-2K	07/02/1952
	044-08	Cecil County - Flight Series ANI-2K	07/02/1952
045	045-01	Cecil County - Flight Series ANI-2K	07/02/1952
	045-02	Cecil County - Flight Series ANI-2K	07/02/1952
	045-02	Cecil County - Flight Series ANI-3K	07/12/1952
	045-03	Cecil County - Flight Series ANI-3K	07/12/1952
	045-04	Cecil County - Flight Series ANI-3K	07/12/1952
	045-05	Cecil County - Flight Series ANI-1T	08/13/1957
	045-06	Cecil County - Flight Series ANI-1T	08/13/1957
	045-07	Cecil County - Flight Series ANI-1T	08/13/1957
	045-08	Cecil County - Flight Series ANI-1T	08/13/1957
	045-08	Cecil County - Flight Series ANI-2T	08/16/1957
045-09	Cecil County - Flight Series ANI-2T	08/16/1957	
045-10	Cecil County - Flight Series ANI-2T	08/16/1957	
046	046-01	Cecil County - Flight Series ANI-2T	08/16/1957
	046-02	Cecil County - Flight Series ANI-2T	08/16/1957
	046-02	Cecil County - Flight Series ANI-2T	08/21/1957
	046-03	Cecil County - Flight Series ANI-2T	08/21/1957
	046-04	Cecil County - Flight Series ANI-2T	08/21/1957
	046-04	Cecil County - Flight Series ANI-2T	08/28/1957
	046-04	Cecil County - Flight Series ANI-3T	08/28/1957
	046-05	Cecil County - Flight Series ANI-3T	08/28/1957
	046-05	Cecil County - Flight Series ANI-7T	10/03/1957
	046-06	Cecil County - Flight Series ANI-7T	10/03/1957
	046-07	Charles County - Flight Series AHU-1K	06/19/1952
	046-08	Charles County - Flight Series AHU-1K	06/19/1952
	046-09	Charles County - Flight Series AHU-1K	06/19/1952
046-10	Charles County - Flight Series AHU-1K	06/19/1952	
047	047-01	Charles County - Flight Series AHU-1K	06/19/1952
	047-02	Charles County - Flight Series AHU-1K	06/19/1952
	047-03	Charles County - Flight Series AHU-1K	06/19/1952
	047-04	Charles County - Flight Series AHU-1K	06/19/1952
	047-05	Charles County - Flight Series AHU-1K	06/19/1952
	047-06	Charles County - Flight Series AHU-1K	06/19/1952
	047-07	Charles County - Flight Series AHU-1K	06/19/1952
	047-08	Charles County - Flight Series AHU-1K	06/19/1952
	047-09	Charles County - Flight Series AHU-1K	06/19/1952
	047-10	Charles County - Flight Series AHU-1K	06/19/1952

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048	048-01	Charles County - Flight Series AHU-1K	06/19/1952
	048-02	Charles County - Flight Series AHU-1K	06/19/1952
	048-03	Charles County - Flight Series AHU-1K	06/19/1952
	048-04	Charles County - Flight Series AHU-1K	06/19/1952
	048-05	Charles County - Flight Series AHU-2K	06/19/1952
	048-06	Charles County - Flight Series AHU-2K	06/19/1952
	048-07	Charles County - Flight Series AHU-2K	06/19/1952
	048-08	Charles County - Flight Series AHU-2K	06/19/1952
	048-09	Charles County - Flight Series AHU-2K	06/19/1952
	048-10	Charles County - Flight Series AHU-2K	06/19/1952
049	049-01	Charles County - Flight Series AHU-2K	06/19/1952
	049-02	Charles County - Flight Series AHU-2K	06/19/1952
	049-03	Charles County - Flight Series AHU-2K	06/19/1952
	049-04	Charles County - Flight Series AHU-2K	06/19/1952
	049-05	Charles County - Flight Series AHU-2K	06/19/1952
	049-06	Charles County - Flight Series AHU-2K	06/19/1952
	049-07	Charles County - Flight Series AHU-2K	06/19/1952
	049-08	Charles County - Flight Series AHU-2K	06/19/1952
	049-09	Charles County - Flight Series AHU-2K	06/19/1952
050	050-01	Charles County - Flight Series AHU-2K	06/19/1952
	050-02	Charles County - Flight Series AHU-2K	06/19/1952
	050-03	Charles County - Flight Series AHU-2K	06/19/1952
	050-04	Charles County - Flight Series AHU-2K	06/19/1952
	050-05	Charles County - Flight Series AHU-2K	06/19/1952
	050-05	Charles County - Flight Series AHU-3K	06/26/1952
	050-06	Charles County - Flight Series AHU-3K	06/26/1952
	050-07	Charles County - Flight Series AHU-3K	06/26/1952
	050-08	Charles County - Flight Series AHU-3K	06/26/1952
050-09	Charles County - Flight Series AHU-3K	06/26/1952	
051	051-01	Charles County - Flight Series AHU-3K	06/26/1952
	051-01	Charles County - Flight Series AHU-6K	10/22/1952
	051-02	Charles County - Flight Series AHU-6K	10/22/1952
	051-03	Charles County - Flight Series AHU-6K	10/22/1952
	051-04	Charles County - Flight Series AHU-6K	10/22/1952
	051-05	Charles County - Flight Series AHU-6K	10/22/1952
	051-06	Charles County - Flight Series AHU-6K	10/22/1952
	051-07	Charles County - Flight Series AHU-6K	10/22/1952
	051-08	Charles County - Flight Series AHU-6K	10/22/1952
	051-09	Charles County - Flight Series AHU-6K	10/22/1952
051-10	Charles County - Flight Series AHU-6K	10/22/1952	
052	052-01	Dorchester County - Flight Series ANJ-1K	06/06/1952
	052-02	Dorchester County - Flight Series ANJ-1K	06/06/1952
	052-03	Dorchester County - Flight Series ANJ-1K	06/06/1952
	052-04	Dorchester County - Flight Series ANJ-1K	06/06/1952

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052	052-05	Dorchester County - Flight Series ANJ-1K	06/06/1952
	052-06	Dorchester County - Flight Series ANJ-1K	06/06/1952
	052-07	Dorchester County - Flight Series ANJ-1K	06/06/1952
	052-08	Dorchester County - Flight Series ANJ-1K	06/06/1952
	052-09	Dorchester County - Flight Series ANJ-1K	06/06/1952
	052-10	Dorchester County - Flight Series ANJ-1K	06/06/1952
053	053-01	Dorchester County - Flight Series ANJ-1K	06/06/1952
	053-02	Dorchester County - Flight Series ANJ-1K	06/06/1952
	053-02	Dorchester County - Flight Series ANJ-1K	06/08/1952
	053-03	Dorchester County - Flight Series ANJ-1K	06/08/1952
	053-03	Dorchester County - Flight Series ANJ-2K	06/13/1952
	053-04	Dorchester County - Flight Series ANJ-2K	06/13/1952
	053-05	Dorchester County - Flight Series ANJ-2K	06/13/1952
	053-05	Dorchester County - Flight Series ANJ-3K	06/13/1952
	053-06	Dorchester County - Flight Series ANJ-3K	06/13/1952
	053-07	Dorchester County - Flight Series ANJ-3K	06/13/1952
	053-08	Dorchester County - Flight Series ANJ-3K	06/13/1952
053-08	Dorchester County - Flight Series ANJ-4K	06/13/1952	
053-09	Dorchester County - Flight Series ANJ-4K	06/13/1952	
053-10	Dorchester County - Flight Series ANJ-4K	06/13/1952	
054	054-01	Dorchester County - Flight Series ANJ-4K	06/13/1952
	054-02	Dorchester County - Flight Series ANJ-4K	06/13/1952
	054-02	Dorchester County - Flight Series ANJ-5K	07/02/1952
	054-03	Dorchester County - Flight Series ANJ-5K	07/02/1952
	054-04	Dorchester County - Flight Series ANJ-5K	07/02/1952
	054-05	Dorchester County - Flight Series ANJ-5K	07/02/1952
	054-06	Dorchester County - Flight Series ANJ-5K	07/02/1952
	054-07	Dorchester County - Flight Series ANJ-5K	07/02/1952
	054-08	Dorchester County - Flight Series ANJ-5K	07/02/1952
	054-09	Dorchester County - Flight Series ANJ-5K	07/02/1952
054-10	Dorchester County - Flight Series ANJ-5K	07/02/1952	
055	055-01	Dorchester County - Flight Series ANJ-5K	07/02/1952
	055-02	Dorchester County - Flight Series ANJ-5K	07/02/1952
	055-03	Dorchester County - Flight Series ANJ-5K	07/02/1952
	055-04	Dorchester County - Flight Series ANJ-5K	07/02/1952
	055-05	Dorchester County - Flight Series ANJ-5K	07/02/1952
	055-06	Dorchester County - Flight Series ANJ-5K	07/02/1952
	055-07	Dorchester County - Flight Series ANJ-5K	07/02/1952
	055-08	Dorchester County - Flight Series ANJ-5K	07/02/1952
	055-09	Dorchester County - Flight Series ANJ-5K	07/02/1952
	055-10	Dorchester County - Flight Series ANJ-6K	07/25/1952
056	055-10	Dorchester County - Flight Series ANJ-7K	10/04/1952
	056-01	Dorchester County - Flight Series ANJ-7K	10/04/1952
	056-02	Dorchester County - Flight Series ANJ-7K	10/04/1952

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056	056-03	Dorchester County - Flight Series ANJ-7K	10/04/1952
	056-04	Dorchester County - Flight Series ANJ-7K	10/04/1952
	056-05	Dorchester County - Flight Series ANJ-7K	10/04/1952
	056-06	Dorchester County - Flight Series ANJ-7K	10/04/1952
	056-07	Dorchester County - Flight Series ANJ-7K	10/04/1952
	056-08	Dorchester County - Flight Series ANJ-7K	10/04/1952
	056-09	Frederick County - Flight Series AHA-3K	09/11/1952
057	057-01	Frederick County - Flight Series AHA-3K	09/11/1952
	057-02	Frederick County - Flight Series AHA-3K	09/11/1952
	057-02	Frederick County - Flight Series AHA-4K	09/12/1952
	057-03	Frederick County - Flight Series AHA-4K	09/12/1952
	057-04	Frederick County - Flight Series AHA-4K	09/12/1952
	057-05	Frederick County - Flight Series AHA-4K	09/12/1952
	057-06	Frederick County - Flight Series AHA-4K	09/12/1952
058	058-01	Frederick County - Flight Series AHA-4K	09/12/1952
	058-02	Frederick County - Flight Series AHA-4K	09/12/1952
	058-03	Frederick County - Flight Series AHA-4K	09/12/1952
	058-04	Frederick County - Flight Series AHA-4K	09/12/1952
	058-05	Frederick County - Flight Series AHA-4K	09/12/1952
059	059-01	Frederick County - Flight Series AHA-4K	09/12/1952
	059-02	Frederick County - Flight Series AHA-4K	09/12/1952
	059-03	Frederick County - Flight Series AHA-4K	09/12/1952
	059-04	Frederick County - Flight Series AHA-4K	09/12/1952
	059-05	Frederick County - Flight Series AHA-4K	09/12/1952
060	060-01	Frederick County - Flight Series AHA-4K	09/12/1952
	060-02	Frederick County - Flight Series AHA-4K	09/12/1952
	060-02	Frederick County - Flight Series AHA-5K	09/12/1952
	060-03	Frederick County - Flight Series AHA-5K	09/12/1952
	060-04	Frederick County - Flight Series AHA-5K	09/12/1952
	060-05	Frederick County - Flight Series AHA-5K	09/12/1952
061	061-01	Frederick County - Flight Series AHA-5K	09/12/1952
	061-02	Frederick County - Flight Series AHA-5K	09/12/1952
	061-03	Frederick County - Flight Series AHA-5K	09/12/1952
	061-04	Frederick County - Flight Series AHA-5K	09/12/1952
	061-05	Frederick County - Flight Series AHA-5K	09/12/1952
	061-06	Frederick County - Flight Series AHA-5K	09/12/1952
062	062-01	Frederick County - Flight Series AHA-5K	09/12/1952
	062-01	Frederick County - Flight Series AHA-8K	10/24/1952
	062-02	Frederick County - Flight Series AHA-8K	10/24/1952
	062-03	Frederick County - Flight Series AHA-8K	10/24/1952
	062-04	Frederick County - Flight Series AHA-8K	10/24/1952
	062-05	Frederick County - Flight Series AHA-8K	10/24/1952
	062-06	Frederick County - Flight Series AHA-8K	10/24/1952
062-07	Frederick County - Flight Series AHA-8K	10/24/1952	

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063	063-01	Harford County - Flight Series ANK-2K	07/02/1952
	063-01	Harford County - Flight Series ANK-3K	07/12/1952
	063-02	Harford County - Flight Series ANK-3K	07/12/1952
	063-03	Harford County - Flight Series ANK-3K	07/12/1952
	063-04	Harford County - Flight Series ANK-3K	07/12/1952
	063-05	Harford County - Flight Series ANK-3K	07/12/1952
	063-06	Harford County - Flight Series ANK-3K	07/12/1952
	063-07	Harford County - Flight Series ANK-3K	07/12/1952
	063-08	Harford County - Flight Series ANK-3K	07/12/1952
	063-09	Harford County - Flight Series ANK-3K	07/12/1952
063-10	Harford County - Flight Series ANK-3K	07/12/1952	
064	064-01	Harford County - Flight Series ANK-3K	07/12/1952
	064-02	Harford County - Flight Series ANK-3K	07/12/1952
	064-03	Harford County - Flight Series ANK-3K	07/12/1952
	064-04	Harford County - Flight Series ANK-3K	07/12/1952
	064-05	Harford County - Flight Series ANK-3K	07/12/1952
	064-06	Harford County - Flight Series ANK-3K	07/12/1952
	064-06	Harford County - Flight Series ANK-4K	07/25/1952
	064-07	Harford County - Flight Series ANK-4K	07/25/1952
	064-08	Harford County - Flight Series ANK-4K	07/25/1952
	064-09	Harford County - Flight Series ANK-4K	07/25/1952
064-10	Harford County - Flight Series ANK-4K	07/25/1952	
065	065-01	Harford County - Flight Series ANK-4K	07/25/1952
	065-01	Harford County - Flight Series ANK-5K	08/23/1952
	065-02	Harford County - Flight Series ANK-5K	08/23/1952
	065-03	Harford County - Flight Series ANK-5K	08/23/1952
	065-04	Harford County - Flight Series ANK-5K	08/23/1952
	065-05	Harford County - Flight Series ANK-5K	08/23/1952
	065-06	Harford County - Flight Series ANK-5K	08/23/1952
	065-07	Harford County - Flight Series ANK-5K	08/23/1952
	065-07	Harford County - Flight Series ANK-7K	10/22/1952
	065-08	Harford County - Flight Series ANK-7K	10/22/1952
	065-09	Harford County - Flight Series ANK-3T	08/28/1957
065-10	Howard County - Flight Series NP-9K	10/24/1951	
065-10	Howard County - Flight Series NP-6K	09/14/1952	
066	066-01	Howard County - Flight Series NP-6K	09/14/1952
	066-02	Howard County - Flight Series NP-7K	09/14/1952
	066-03	Howard County - Flight Series NP-7K	09/14/1952
	066-04	Kent County - Flight Series FB-1K	06/03/1952
	066-05	Kent County - Flight Series FB-1K	06/03/1952
	066-06	Kent County - Flight Series FB-1K	06/03/1952
	066-07	Kent County - Flight Series FB-1K	06/03/1952
	066-07	Kent County - Flight Series FB-2K	06/03/1952
066-08	Kent County - Flight Series FB-2K	06/03/1952	

Box ID	Folder ID (comprised of Box ID-Folder #)	Title as found on volume or brief description of contents of box	Dates Covered by Contents
066	066-09	Kent County - Flight Series FB-2K	06/03/1952
	066-10	Kent County - Flight Series FB-2K	06/03/1952
067	067-01	Kent County - Flight Series FB-2K	06/03/1952
	067-02	Kent County - Flight Series FB-2K	06/03/1952
	067-03	Kent County - Flight Series FB-2K	06/03/1952
	067-04	Kent County - Flight Series FB-2K	06/03/1952
	067-05	Kent County - Flight Series FB-2K	06/03/1952
	067-06	Kent County - Flight Series FB-2K	06/03/1952
	067-07	Kent County - Flight Series FB-2K	06/03/1952
	067-08	Kent County - Flight Series FB-2K	06/03/1952
	067-09	Kent County - Flight Series FB-2K	06/03/1952
	067-10	Kent County - Flight Series FB-2K	06/03/1952
068	068-01	Kent County - Flight Series FB-2K	06/03/1952
	068-02	Kent County - Flight Series FB-2K	06/03/1952
	068-02	Kent County - Flight Series FB-3K	06/03/1952
	068-03	Kent County - Flight Series FB-3K	06/03/1952
	068-04	Kent County - Flight Series FB-3K	06/03/1952
	068-05	Kent County - Flight Series FB-3K	06/03/1952
	068-06	Kent County - Flight Series FB-3K	06/03/1952
	068-07	Kent County - Flight Series FB-3K	06/03/1952
	068-08	Kent County - Flight Series FB-3K	06/03/1952
	068-09	Kent County - Flight Series FB-3K	06/03/1952
068-10	Kent County - Flight Series FB-3K	06/03/1952	
069	069-01	Kent County - Flight Series FB-3K	06/03/1952
	069-02	Kent County - Flight Series FB-3K	06/03/1952
	069-03	Kent County - Flight Series FB-3K	06/03/1952
	069-04	Kent County - Flight Series FB-3K	06/03/1952
	069-04	Kent County - Flight Series FB-4K	06/06/1952
	069-05	Kent County - Flight Series FB-4K	06/06/1952
	069-06	Kent County - Flight Series FB-4K	06/06/1952
	069-07	Kent County - Flight Series FB-4K	06/06/1952
	069-08	Kent County - Flight Series FB-4K	06/06/1952
	069-08	Kent County - Flight Series FB-5K	06/06/1952
069-09	Kent County - Flight Series FB-5K	06/06/1952	
069-10	Kent County - Flight Series FB-5K	06/06/1952	
070	070-01	Kent County - Flight Series FB-5K	06/06/1952
	070-02	Kent County - Flight Series FB-5K	06/06/1952
	070-03	Kent County - Flight Series FB-5K	06/06/1952
	070-04	Kent County - Flight Series FB-5K	06/06/1952
	070-05	Kent County - Flight Series FB-1T	08/06/1957
	070-05	Kent County - Flight Series FB-4T	08/13/1957
	070-05	Kent County - Flight Series FB-5T	10/22/1957
	070-05	Kent County - Flight Series FB-5T	11/06/1957